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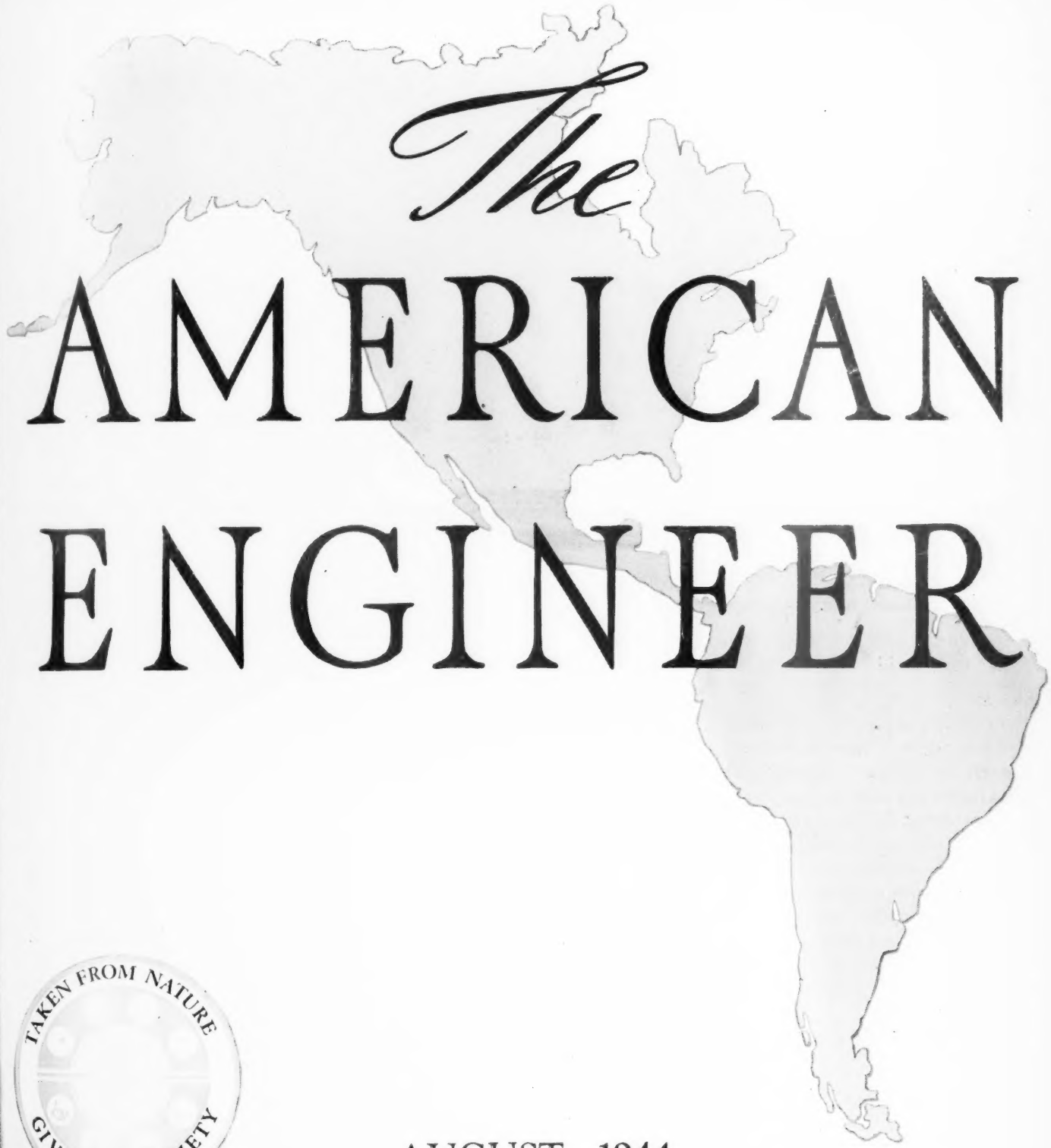

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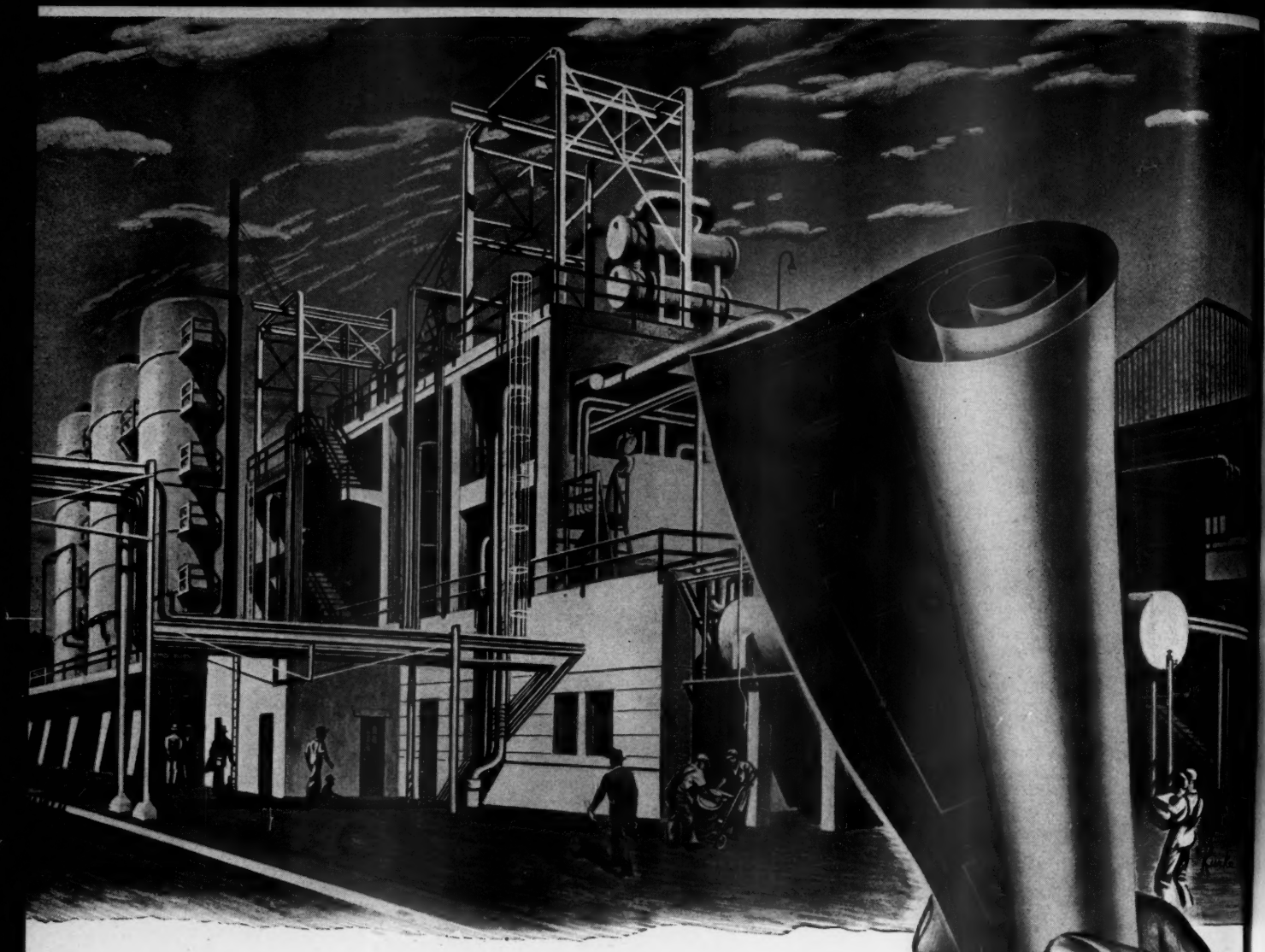

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THE

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Kindly report any errors or omissions to the Editor.

What is a Profession?

CAN SUCH A CALLING BE DEFINED?

Or Does It Defy Phraseology?

A PROPOSAL FOR COMMENT.

What is a profession? To establish a consensus is as difficult as it is to agree upon a definition for engineering. There are numerous sources to which one may refer, including the dictionary, but in the light of individual opinion none of them appears to be an unquestionable authority. No attempt to define a profession has to date met with universal approval despite the fact that the traditional reference to Law, Medicine and Theology as the learned professions has had general application for several centuries.

Can a profession be defined? Is it possible to completely express in language the meaning and purpose of such a calling. That it is a difficult, though engaging task, is obvious when one essays to phrase his ideas. Conciseness, which is essential to a good definition, demands basic and general terms. The result, in the case of a profession is likely to be too inclusive to be restricted to a particular group in the category of occupations. Specific terms, usually at the expense of brevity, in an effort at definitiveness invariably overlook some phase, become involved and produce a lengthy but incomplete result. Thus the lexicographer, author or other individual who attempts a definition for profession is likely to find himself perched firmly on both horns of a dilemma.

Appreciating the lack of a satisfying definition, professional men, (assuming their existence regardless of definition) occasionally attempt to describe the personal attributes which should be present in those who *profess* to be practitioners of a profession. Generally such efforts like the lengthy definitions, succeed only in circumventing the fundamental concepts of a profession.

The Scientific Monthly for February, 1944 contains some reflections upon the part of Byrne J. Horton of the Graduate Faculty of St. Johns University "Contemplating the characteristics of the professions of law, medicine, theology and advanced teaching, Dr. Horton advances ten criteria or earmarks of a genuine profession".

1. **A profession must satisfy an indispensable social need and be based upon well-established and socially accepted scientific principles.**
2. **It must demand an adequate pre-professional and cultural training. (Today, a two-year college course is generally required.)**
3. **It must demand the possession of a body of specialized and systematized knowledge.**
4. **It must give evidence of needed skills which the general public does not possess; that is, skills which are partly native and partly acquired.**
5. **It must have developed a scientific technique which is the result of tested experience.**
6. **It must require the exercise of discretion and judgment as to the time and manner of the performance of duty. This is in contrast to the kind of work which is subject to immediate direction and supervision.**
7. **It must be a type of beneficial work, the result of which is not subject to standardization in terms of unit performance or time element.**
8. **It must have a group consciousness designed to extend scientific knowledge in technical language.**
9. **It must have sufficient self-impelling power to retain its members throughout life. It must not be used as a mere stepping-stone to other occupations.**
10. **It must recognize its obligations to society by insisting that its members live up to an established and accepted code of ethics.**

The above has received some publicity. Strangely, engineering which is not cited as a profession, although advanced teaching is, has manifested considerable interest through the medium of repetition in bulletins and correspondence.

One wonders why Engineers should be so impressed with these reflections. Is there a beauty of language or an impressiveness of expression contained therein? Surely they do not serve to enlighten or elucidate to any appreciable extent despite the use of about two hundred and fifteen words. Individually and collectively the criteria fall far short of the fundamental concepts and standards of a noble calling.

Implied criticism is not of itself constructive. The critic to avoid being an iconoclast must offer something in place of that which he glibly destroys. He must likewise be willing to subject himself and his proposals to the same criticism to which he subjects another. In an effort to arouse interest, and in expectation of comment and opinion, whether adverse or favorable, the Editor submits the following as the basis for a controversy.

"A profession is a calling dealing with spiritual, physical or social laws, principles and aspirations, and, requiring expert knowledge, inherent skill and strong moral purpose in the application of the same to the conduct of life and the affairs of men".

What do readers of the American Engineer think?

MILWAUKEE PLANS
FORMS METROPOLITAN ASSOCIATION
TO PREPARE COMPREHENSIVE MASTER PLAN

Keeping pace with postwar programs for rehabilitating cities both in America and abroad, the citizens of Milwaukee have formed a voluntary organization for the stated purpose of initiating and fostering a single Master Plan for the entire metropolitan area of that city. Most significant is the fact that an Engineer, Lawrence E. Peterson, N.S.P.E. Director for Wisconsin, is President of the Executive Committee. One ventures the belief that this recognition of the fact that a civic minded engineer is the best equipped person to direct a Master Plan undertaking will bear fruit worthy of the great city of Milwaukee.

BETTER LAND USE

A Necessity To Milwaukee's Future

A loss of about $158,000,000 in assessed property values, according to Mayor Bohn, was sustained by the city of Milwaukee alone in the twelve years following 1930. The decadence that this represents is largely the result of haphazard methods practiced in the layout and handling of property in the entire Milwaukee vicinity.

What the remedy should be, the representatives of eleven civic and professional organizations who together make-up the Milwaukee Metropolitan Plan Association would like to know and are initiating measures to find out. They are not trying to do this of themselves, for the task of discovery and correction is enormous. It will require long professional study and the co-ordinated effort of the whole community. They are seeking rather to be the expression of a general citizen desire to get this going and to keep it going until it is accomplished.

Probable Causes of Decadence.

Milwaukee with its metropolitan area has been allowed to grow in its own planless, heedless way like most American cities. All are having the same experience. Perhaps there is no other method. Civilization has been asked in one century to change from the days of the ox-cart to the automobile, of the small shop to the large industry, of the city of 10,000 to that of 1,000,000. It is a herculean and in some respects an as yet unfinished task. In all probability Milwaukee has now largely reached its maturity. Earlier, perhaps, an accurate forecast could not be made as to just how it would develop. Now this can be seen!

Were greater Milwaukee an automobile it would have to be scrapped — but one cannot scrap a city. Unlike an automobile a city does not have to "go". It is the users that must do the "going" and they should be able to do so conveniently and speedily. Had officials and citizens been aware of this decadence they would at least have tried as they went along to foresee needs, guide growth, and correct blemishes, as is now the real function of "planning departments".

Yet, through thought and foresight it is still possible, if its citizens will, to make of Milwaukee and its vicinity a new city, using most of the framework and machinery of the old.

Method of Study

The first move should be an attempt to see the metropolitan city with new eyes as if one had never seen it before — to try to discover what is sound and what is partly or wholly wrong.

A city is a complex thing, but its land activities can be "broken down" into a few major parts and each closely examined. There are, for instance, the land uses of industry, of the region's transportation systems, the effectiveness and ineffectiveness of the major street system, and the conveniences and enemies of wholesome living.

After such an examination, corrective measures can be set up to permit the most convenient utilization of these parts both separately and collectively. Convenience, however, must not entirely dominate a city's planning, for attractiveness, beauty, and general interest must be provided to prevent the only too customary exodus from the city in quest of fresh air and living space.

A Master Plan

The result of such an examination made in a thoroughgoing, realistic way is what is known as a "master plan". A master plan is not a list of costly construction projects! It is an examination of the different ways to cure the ills of the older city and to prevent their introduction into the new. It is not postwar construction, though postwar construction should obviously be based on a master plan. Such construction as may, however, be necessary will be considered in its proper order and in the light of the financing requirements which become part of any master plan study.

Who Shall Prepare the Master Plan

The Common Council of the City of Milwaukee, after representations by the Milwaukee Metropolitan Plan Association, has placed upon its Board of Public Land Commissioners the drafting of a master plan for the area of the city of Milwaukee and has provided an adequate staff. The Milwaukee County Park Commission as the County's "Rural Planning Board" also has the matter under consideration. The Association wants also to present the matter at the proper time to the villages and the other cities of the county.

Citizens' activity is most necessary in the promotion of a master plan since day by day necessities are occupying all of the available time of governmental departments and since municipal governments are not yet sufficiently centralized to initiate of themselves new and large undertak-

ings. A great effort must proceed from a great need and a strong citizen demand. The recent tremendous all-out effort to change industry from peacetime pursuits to a war-time task has developed an outpouring of energy in the country which seems to bring these master plan ideas definitely within the range of practical possibility. "Planning" in St. Paul, Cleveland, Cincinnati, and other cities is receiving fine citizen support, both personal and financial. The citizens of the City and County of Los Angeles are doing a remarkable and outstanding job in backing and financing the co-ordination of their two planning bodies.

The Milwaukee Metropolitan Plan Association

While every citizen of the metropolitan area is affected by the situation, it is the civic and professional groups who, having their fingers continually on the public pulse, are in the best position to see and voice the need for a solution and are also best equipped to suggest measures by which activities can be initiated. As their instrument, the Milwaukee Metropolitan Plan Association is attempting what may be called the "snowball method" of securing interest and action. It began rolling the snowball where the need is greatest, the city of Milwaukee. The path then runs into the county activities and then those of other municipalities with, lastly, a drive to enlist the help of various groups of citizens. Leadership, however, must be maintained governmental even though eventually the work of the citizenry may compare favorably in extent to that of the governmental bodies.

Once started, the Association is under obligation to both officials and citizens to see the matter through. The task of initiating has only just begun. What is started must then be encouraged, fostered and correlated. A large number of planning bodies, all politically independent of each other, will participate. A citizen group may be of great value in harmonizing and unifying their efforts. If contributions of value are to be made by citizen groups, as they may be, much must be inspired and formulated by such an organization as the Association. Education of the public as to all of these master plan activities, a thing which cannot be done properly by official bodies, presents further work for the Association — and, after results become available, the Association is under obligation to citizens generally to scrutinize these results and to supply earnest and constructive criticism.

One hundred and fifty-eight million dollars — Milwaukee's property loss reported in its assessed valuation drop from about $1,000,000,000 in 1930 to about $842,000,000 in 1942 — represents a very costly and cumulative mistake somewhere. Further loss can and must be stopped. Methods of control must be initiated. Only the enlisted energy of every citizen will make this accomplishment a fact.

Governmental Planning Agencies of Milwaukee County

These agencies have a variety of titles, but all, wholly or partly, have the duties of a "planning commission". They are:

The Board of Public Land Commissioners of the City of Milwaukee.

The Milwaukee County Park Commission And Rural Planning Board, assisted by the County Regional Planning Department.

The Planning bodies, existing or that may be appointed, of the Cities of Cudahy, South Milwaukee, Wauwatosa, and West Allis; Villages of Fox Point, Greendale, River Hills, Shorewood, West Milwaukee, and Whitefish Bay.

These official bodies will require the assistance of other governmental departments and of citizen groups as needs become evident and specific work is assigned.

THE MILWAUKEE Metropolitan Plan Association

Telephone MArquette 7076
759 N. Milwaukee Street
Milwaukee 2, Wisconsin

This is a voluntary organization consisting of two representatives each of eleven civic and professional organizations that have an intreest in Milwaukee's civic betterment.

Its purpose is the initiation, fostering, and constructive criticism of master plans for the various governmental areas of Milwaukee County as they are coordinated into a single comprehensive Master Plan for the entire metropolitan area.

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DEFICIENCIES OF ENGINEERS
NOTED IN REPORT

By F. W. PEARCE

Head-Dept. Engineering—Montana College

The following report while restricted to the shortcomings of young graduates and obviously built almost entirely on civil engineering and surveying experience is none the less interesting as an index, and the recommendations set forth are worth noting.

Recommendations for Improving the Training Given in Engineering Colleges

A. Higher pre-requisites for admission should prevail, e.g. more careful selection of students according to aptitude and ambition.

B. The administrative board should not permit instructors to weight their particular courses to the detriment of other courses. Also this board could help the students secure summer jobs with pay.

C. The following recommendations were made with respect to the engineering curriculum:

*1. Intensive and thorough training should be given in mathematics, chemistry, physics, drawing, and mechanics (including hydraulics). One or two courses in manual training are desirable. Civil engineering students should have thorough courses in concrete design, railroad engineering, construction engineering and machinery, and in specification writing.

2. Engineering training should be increased to five years.

*3. Accuracy, thoroughness, neatness, and the necessity of checking results at every opportunity should be insisted upon in every course in the engineering curriculum. The habit of thinking and of placing greater confidence in ability should be instilled. Also, students should be trained to find information and to use it. The student is placed in a better frame of mind toward his profession if he considers the early assignments in the nature of an internship. Lastly, memorizing is relatively unimportant in engineering.

4. The following topics should be discussed in a semi-self; employers' point of view; job interviews; the handl-self! employers' point of view; job interviews; the handling of men; ethics; traits of character; public relations, licensing of engineers; and life beyond college in field pursued. Students should be encouraged to take part in civic organizations. The desirability of reading technical magazine articles regularly should be strongly emphasized.

*5. More emphasis should be placed on the teaching of English and public speaking in engineering colleges. Speeches as well as written and oral reports are frequently required of engineers, and these requirements should be prepared for in college. Also a specific course in report writing is desirable.

*6. More consideration should be given to drafting, freehand drawing, and lettering. Attention should be given to the reading and understanding of blueprints as well as to neatness, completeness, and accuracy of drawings and design notes.

*7. Engineering training should be training for leadership. Originality and resourcefulness should be encouraged. Engineers want men with perspective, initiative, ingenuity, and energy. Therefore college should train students with the above-mentioned attributes in mind.

8 .It is agreed that graduate civil engineers should be familiar with the fundamentals of electrical, mechanical, chemical, and industrial engineering.

9. Courses in business, real estate law, shorthand and typewriting should be pursued by engineering students. The survey showed considerable emphasis placed on shorthand and typewriting.

*D. An engineer should be something more than a good technician. It is recommended, therefore, that his education be as broad as possible, including some cultural subjects such as logic, economics, finance, public speaking, government, history, geology, biology, and sociology. Some of this training can be take care of in a seminar or other course. A liberal arts education before graduation from an engineering college is ideal. Cultural subjects are most desirable for those who go into supervisory and administrative work.

*E. In general more attention should be given to surveying instruction in engineering colleges. In this respect the following suggestions were made:

1. Make courses as practical, thorough, and comprehensive as possible, and conforming to present and future trends.

2. Stress the need for care, disassembling and adjustment of instruments.

3. All engineers should be schooled in surveying.

4. Summer surveying camps or equivalent should be made compulsory for civil engineering students.

5. Equal stress should be placed on both land and construction surveying.

6. The study of errors should be given very careful attention.

(*Continued on Page* 25)

N.S.P.E. Constitution And By-Laws

PRELIMINARY REPORT TO AMEND

PREPARED AND SUBMITTED FOR COMMENTS

By The Committee on Constitution and By-Laws

CHARLES F. BURKE — *Chairman*

In accordance with the directions of the Board of Directors of the National Society of Professional Engineers the Special Committee appointed for the purpose has submitted the first draft of its proposals. The recommendations are as follows:

National Society of Professional Engineers

Constitution and By-Laws

Draft No. 1 — May 10, 1944

CONSTITUTION

Preamble

The National Society of Professional Engineers, recognizing that service to Society, to State, and to Profession is the premise upon which individual opportunity must be builded does hereby dedicate itself, as an educational institution, to the promotion and protection of the Profession of engineering as a social and economic influence vital to the affairs of men and of the United States.

Article I — Name

This Society shall be known as the National Society of Professional Engineers.

Certificate of Incorporation was granted in the State of South Carolina on the 10th day of December, 1934.

Article II — Objects

The objects of the Society shall be the advancement of the public welfare, the promulgation of laws affecting the practice of engineering, the control of such practice, and the promotion of the professional, social and economic interests of the Engineer by means of education, legislation, public relations, the establishment and maintenance of high ethical standards and practices through the development of a civic consciousness and the formation of State Professional Engineering Societies and Chapters thereof throughout the United States and its possessions.

Article III — Headquarters

The main offices of the Society shall be located at Washington, D. C., or such other place as may be designated by the Board of Directors.

Article IV — Membership

Membership shall consist of Professional Engineers. A Professional Engineer shall be defined as follows:

(a) A person licensed to practice professional engineering in any or all of its branches in accordance with the laws of the state in which such person resides or practices.

(b) A person licensed to practice professional engineering in any or all of its branches in another state.

(c) A person certified by the National Council of State Boards of Engineering Examiners.

(d) A person certified by the Board of Directors of a constituent or cooperating State Society as being possessed of qualifications equivalent to those set forth in (a), (b) or (c).

Two years after the enactment of legislation requiring registration of professional engineers in any state, no person in such state shall be eligible for membership in the National Society, unless licensed to practice in accordance with the laws of that State. Sections (b), (c) and (d) will no longer be operative in such state.

No person residing or practicing in a state where a member society exists may obtain or retain membership in the National Society except through membership in such State Society.

Article V — Member State Societies

One organization, approved by the Board of Directors of the National Society may be recognized in each state as a member society upon written acceptance of the provisions of this Constitution. A minimum of ten professional engineers shall be required for the formation and the chartering of a Member State Society. For continued affiliation with the National Body, every professional engineer member of such State Society must also be a member of the National Society.

Article VI — Officers

The Officers of the Society shall be a President, four (4) Vice-Presidents, one chosen from each of the major areas of the United States as provided for in the By-Laws, a Treasurer and an Executive Secretary, who shall be appointed annually by the Board of Directors. The officers and directors shall take office on January 1st next, following their election, and shall hold office until the following January 1st or until their successors have been duly elected and qualified.

Article VII — Administration

Board of Directors

1. There shall be a Board of Directors, which shall consist of the officers of the National Society, except the Executive Secretary; the two (2) immediate Past Presidents, and the Directors from each Member State Society, who shall be named by the said State Society. Each Member State Society shall have one (1) Director for the first five hundred (500) or fraction thereof members in good

standing, and one (1) additional Director for each additional five hundred (500) or fraction thereof members in good standing. Directors from State Societies may be represented by alternate, if duly appointed by the Member State Society he represents. No Member State Society may be represented by a Director or representative from any other State Society. The Board of Directors shall determine questions of policy and shall meet on the call of the President or of a quorum of the Board.

2. The Society shall be administered by the Board of Directors under this Constitution and the general provisions of the laws under which it is incorporated. The Board of Directors shall have such powers and duties as are prescribed by statute and by this Constitution.

3. The Board of Directors shall direct the investment and care of funds of the Society, shall make appropriations for specific purposes, shall appoint such employees as it shall consider necessary to carry out the purposes of the Society and fix their salaries, and in general, shall direct the business of the Society either through itself or through its officers or committees.

4. The Board of Directors shall meet regularly four (4) times annually at the call of the President.

5. The Board of Directors shall prepare and adopt a series of By-Laws, which shall govern all procedures under this Constitution, including those of the Board and of the committees. Such By-Laws shall be adopted or may be amended by a concurring vote of not less than a majority of the Board, provided that the text of the proposed By-Law or amendment shall be furnished to each member of the Board at least ten (10) days before the meeting at which a vote on the proposed By-Law or Amendment will be taken. The By-Laws shall be published with this Constitution.

6. There shall be an Executive Committee of the Board of Directors, consisting of the President, one (1) Vice-President to be selected by the Board of Directors, the Financial Secretary, the Treasurer and three (3) members of the Board, chosen by the Board. The Board may delegate to the Executive Committee such of its powers and duties as it may determine, and any actions taken by the Executive Committee, in conformity with such delegated powers and duties, shall have the full force and effect of actions by the Board of Directors.

7. There shall be a Board of Trustees, composed of all Past Presidents of the Society. The Board of Trustees shall elect its own Chairman. They shall consider and report upon such matters as may be referred to them for special consideration by the President or by the Board of Directors, and shall report their findings and recommendations.

Article VIII — Nominations

Nominations for officers shall be made by a Committee of five (5), consisting of a Chairman and four (4) members, who shall be nominated and elected from the floor at the Annual Convention of each year, to serve for the following and calendar year. No officers shall be eligible for membership on this Committee and the Committee shall not nominate one of its members for an office. The Nominating Committee just secure the ratification of each nominee from the State Executive Board of the State Society of which the nominee is a member. Additional nominations shall be placed on the official ballot upon petition of fifty (50) members, all of whom must be in good standing, if received at least one week prior to the printing of the official ballot.

Article IX — Elections

Elections of officers (except the Executive Secretary) shall be made annually by plurality vote on individual letter ballots sent to all members in good standing of the National Society.

Upon the death, resignation or removal from office of the President, his unexpired term shall be filled by one of the Vice-Presidents, selected by the Board of Directors. The vacancy thus created in the office of a First Vice-President shall likewise be filled by the Board of Directors by selection from the membership within the area of the United States or its possessions in which the vacancy occurs. Should a vacancy occur in any other elective office of the Society, the vacancy for the unexpired term shall also be filled by appointment by the Board of Directors.

Article X — Committees

The Standing Committees of the National Society shall be:

Legislative, Publication, Ethics and Practice, Public Relations, Educational, Membership

and such other Committees, as may be desirable, shall be appointed by the President and shall perform such duties as may be assigned by him.

Article XI — Conventions

A convention shall be held annually at such time and place as may be selected by the Board of Directors.

Article XII — Voting Representation At Meetings

Voting at meetings of the National Society shall be limited to duly accredited representatives from each of the Member State Societies. The basis of voting representation for each Member State Society shall be on the basis of one vote for each 200 members, or fraction thereof, in good standing. The election or appointment of voting delegates from a Member State Society shall be as determined by said Member State Society. Each voting delegate shall present to the Executive Secretary at a specified time before each meeting of the National Society, his credentials for inspection and approval. Member State Societies may at their discretion authorize one or more of their members to call all or part of the votes to which the Member State Society is entitled. Voting delegates, however, must be members of the respective Member State Societies for whom they are authorized to vote.

Article XIII — Dues

The dues for membership in the National Society shall be not more than $10.00 per year, as provided in the By-Laws, which sum shall include the cost of the subscription to "The American Engineer". These dues shall become

due and payable on January 1st of each year. The dues shall be collected by the Member State Societies and shall be payable monthly to the National Society. For Registered Professional Engineers, who are not members of the State Societies and who reside in states where such societies have not been established, the dues shall be $15.00 per annum, payable direct to the National Society.

Article XIV — State Autonomy

In all matters of State or local concern, the Member State Societies have full autonomy, but may call upon the National Society for advice, counsel and assistance. The National Society may recommend State Legislation and procedure in the interests of uniformity and efficiency, but action upon these recommendations shall be determined by the Member State Society.

Article XV — Amendments

Section 1. Amendments to this Constitution may be proposed by:

(a) A majority vote of the Board of Directors.

(b) Any Member State Society.

(c) A petition signed by not less than 15% of the voting members in good standing of the National Society.

Section 2. Proposed amendments shall be mailed by the Secretary to each member in good standing, together with a letter ballot, not less than thirty (30) days prior to the regular or special meeting at which the vote is to be canvassed.

Section 3. An amendment shall become effective only upon receiving affirmative votes of two-thirds of the votes cast by members entitled to vote, provided that not less than twenty per cent of the members so entitled to vote cast affirmative ballots.

BY-LAWS

Article — Fiscal Year

The fiscal year of the Society shall be from January 1st to December 31st.

Article II — Meetings

The Society shall convene at least once each year upon the date and at the place to be determined by the Board of Directors.

The Board of Directors shall meet four (4) times a year at times and places to be determined by the Board. Special meetings of the Board may be called by the President at the request of the Board of Directors or upon written request of any member State Society or of five (5) or more members of the Board of Directors. The purpose of such meetings shall be set forth in the notice to members, and no business, other than that for which the meeting was called, shall be transacted.

For the purpose of transacting business at the convention of the Society, a quorum of fifteen (15) members shall be required, at least ten (10) of whom shall not be officers or directors.

For the purpose of transacting business by the Board of Directors, a quorum shall consist of one-third of the total number of members of the Board. If a quorum should be lacking at any meeting the Board may be canvassed by letter ballot and a majority of the votes cast shall prevail.

At the first meeting of the Board of Directors after January 1st of each year, the Board shall elect the members of the Executive Committee.

The Executive Committee shall meet at the call of the President or upon the written request of two (2) or more members of the Committee.

A quorum of the Executive Committee shall consist of four (4) members, one of whom shall be either the President or one of the Vice-Presidents.

The President or, in his absence, the Vice-President shall report to the Board of Directors at its regular meetings all actions taken by the Executive Committee and all recommendations which it may desire to make for action to be taken by the Board.

The Executive Committee shall have direct supervision of the financial affairs of the Society. It shall approve all bills before payment and shall make recommendations to the Board of Directors regarding the investment of moneys and all specific appropriations. No payment, other than for routine office expenses, shall be made by the Treasurer, except upon authorization of the Executive Committee. It shall cause to be prepared, for the information of the Board, a statement each year, to December 31st, showing the financial condition of the Society and shall submit to the Board of Directors, at its first regular meeting each year, a budget of estimated receipts and expenditures for the year. It shall cause the books and accounts of the Financial Secretary and of the Treasurer to be audited at the close of each fiscal year.

The Executive Committee shall have general supervision of the arrangements, furnishings and maintenance of the Society's headquarters and the expense thereof, including the selection and leasing of suitable quarters and the engaging of office personnel.

The Executive Committee may exercise any of the powers of the Executive Board in an emergency which may arise between meetings of the Board, and which, in the judgment of a majority of the Committee, requires immediate action.

Order of Business

The order of business for all meetings, except the annual convention, shall be:

1. Reading of minutes of previous meeting
2. Reading of communications
3. Report of officers
4. Report of committees
5. Unfinished business
6. New business
7. Adjournment

Article III — Officers

1. President

The president shall preside at all meetings of the Society, of the Board of Directors and of the Executive Committee. He shall be ex-officio, a member of all committees and shall appoint chairmen and members of all standing and special committees, except the Executive and Nominating Committees. He shall conduct the business of the

Society under the direction of the Board.

2. Vice-President

In the absence or in the inability of the President, one of the Vice-Presidents, selected at the meeting, shall perform all of his duties.

3. Treasurer

The Treasurer shall receive all moneys paid to the Society and shall make such disbursements as are approved by the Board of Directors. He shall make a report to the Board at each of its meetings and an annual report to the Society, of the receipts and disbursements. He shall receive such salary as the Board may, from time to time, determine. To secure the faithful discharge of his duties, he shall give such bond as the Board may require; a premium therefor shall be paid out of the Society treasury. At the expiration of his term of office, he shall turn over to his successor all books, papers and moneys belonging to the Society, taking a receipt therefor.

4. Executive Secretary

The Board of Directors may appoint an Executive Secretary, who shall hold office at the pleasure of the Board. He shall keep an accurate record of the proceedings of the Society, conduct correspondence and have custody of all official papers and records. In the absence of the President and Vice-Presidents, he shall call meetings to order and call for a motion for the election of a President pro tempore. He shall attend all meetings of the Board but shall have no vote in its decisions. He shall have such other duties and prerogatives as the President or the Board may assign to him. At the annual convention, he shall submit a written report covering the duties and activities of his office, including a statement of the membership of the Society. He shall receive such salary as the Board may determine. At the expiration of his term of office, he shall turn over to his successor all books, documents and other property of the Society in his custody, taking a receipt therefor.

Article IV — Membership

Members of the National Society, holding membership in any Member State Society, may transfer their membership therefrom to any other Member State Society without, in any way, affecting their status in the National Society. Members, transferring from one State Society to another, must have their dues fully paid up for the current year in the Society they are leaving and must be eligible for membership in the State Society which they seek to join. Such members, transferring before the end of any year, in order to avoid duplication of the payment of dues, may receive a card from the Society they are joining, granting them the privileges of that Society for the remainder of the current year and thereafter shall pay the dues required by that Society.

Applicants for membership, which is limited to licensed professional engineers in the United States and its possessions, who reside in states or possessions where no Member State Societies exist, may be elected by the Board of Directors upon the recommendation of the Membership Committee. All other memberships shall be secured through the respective Member State Societies and no membership may be secured in states where Member Societies exist, other than through these State Societies.

Article V — Expulsion

Any member may be expelled, for cause upon recommendation of the Ethics and Practice Committee, by two-thirds vote of the Board of Directors. Publication shall be made of expulsions only after a period of sixty (60) days, to afford members expelled by the Board of Directors full opportunity to appeal for reinstatement. Such appeal shall act as a stay of publication until final action is taken by the Board of Directors.

Article VI — Dues

Dues for membership shall be $6.00 per year. Members elected after February 15th of any fiscal year shall pay dues for the expired portion of the year as follows:

If elected between February 16th and May 15th—$4.50
If elected between May 16th and August 15th —$3.00
If elected between August 16th and November 15th—$1.50

Members elected after November 15th shall pay dues for the following fiscal year.

Article VII — Parliamentary Procedure

Roberts' Rules of Order, as revised, shall govern matters of parliamentary procedure.

Article VIII — Amendments

These By-Laws or any part thereof may be amended as provided in Article XV, Section 1 of the Constitution or they may be amended by the delegates at any meeting, provided, however, that the amendment has been proposed by written petition of not less than fifty (50) members. Upon receipt of such petition, the President shall cause notice of the proposed amendment to be mailed to each member of the Society at least ten (10) days in advance of the meeting at which a vote on the proposed amendment is to be taken. A majority approval, with not less than 20% of the membership represented by the delegates voting, shall be required to amend the By-Laws or any part thereof.

Article IX — Suspension Of By-Laws

These By-Laws may be suspended for a specific purpose and for the duration only of the meeting at which they are suspended, by a two-thirds vote of the members present at any regular meeting.

Article X — 4 Major Areas Of the United States For Election of Vice-Presidents

Western Area	*Central Area*	*Northeastern Area*	*Southern Area*
Arizona	Illinois	Connecticut	Alabama
California	Indiana	Delaware	Arkansas
Colorado	Iowa	Maine	Georgia
Idaho	Kansas	Maryland	Florida
Montana	Kentucky	Massachusetts	Louisiana
New Mexico	Michigan	New Hampshire	Mississippi
Nevada	Minnesota	New Jersey	North Carolina
Oregon	Missouri	New York	Oklahoma
Utah	Nebraska	Pennsylvania	South Carolina
Washington	North Dakota	Rhode Island	Tennessee
Wyoming	Ohio	Vermont	Texas
	South Dakota	Virginia	
	Wisconsin	West Virginia	

WISCONSIN SOCIETY

1st VICE-PRESIDENT

WILLIAM J. URBAN
1st V-Pres.
Wisconsin Society of Prof. Engrs.
Milwaukee, Wisconsin

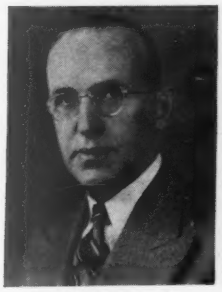
WIS. DIRECTOR

WALTER A. PEIRCE
Director 1944-45
Wisconsin Society of Prof. Engrs.
Racine, Wisconsin

WIS. DIRECTOR

HANS P. DAHLSTRAND
Director 1944-45
Wisconsin Society of Prof. Engrs.
Milwaukee, Wisconsin

2nd VICE-PRESIDENT



EDWIN W. SEEGER
2nd V-Pres.
Milwaukee, Wisconsin
Wisconsin Society of Prof. Engrs.

— OF —

NATIONAL DIRECTOR

LAWRENCE E. PETERSON
Nat'l. Director
Wisconsin Society of Prof. Engrs.
Milwaukee, Wisconsin

PRESIDENT

MORTON O. WITHEY
President
Wisconsin Society of Prof. Engrs.
Madison, Wisconsin

ALT. NAT'L DIRECTOR

BEN G. ELLIOTT
Alternate Nat'l. Director
Wisconsin Society of Prof. Engrs.
Madison, Wisconsin

PROFESSIONAL ENGINEERS

SECRETARY

O. J. MUEGGE
Secretary
Wisconsin Society of Prof. Engrs.

WIS. DIRECTOR

ERNEST SZEKELY
Director
Wisconsin Society of Prof. Engrs.
Milwaukee, Wisconsin

WIS. DIRECTOR

WILLIAM D. BLISS
Director 1944
Wisconsin Society of Prof. Engrs.
Milwaukee, Wisconsin

TREASURER

L. M. SCHINDLER
Treasurer
Wisconsin Society of Prof. Engrs.
Appleton, Wisconsin

— NEWEST MEMBER N.S.P.E. —

Submitted as:

ITEMS OF GENERAL INTEREST

IMPORTANT OPINION

Re Term Engineer

Of particular significance is the opinion of the attorney for the Oklahoma Society of Professional Engineers relevant to the use of the term Engineer. That opinion is entirely in keeping with common sense. Other professions seem to appreciate the fact that language and intent must be consistent. Why Engineers do not realize that a junior engineer is by definition an engineer, even though junior, is difficult to understand. Many license laws and registration acts specifically prohibit the use of an adjective or descriptive word in connection with the term engineer unless the person is licensed or registered as a professional engineer. A Junior Engineer as well as a Senior Engineer is an engineer in the eyes of law and language. It is for this reason that the term "Engineer-in-Training" was devised for the pre-professional man. To insist on a term such as junior engineer, when the individual is not an engineer is to negate the intent of licensing or registration.

As noted elsewhere in this issue "V. J. Bodovitz, Attorney for the Oklahoma Society gave his report on the status of the Junior Professional Engineers advising that we should not atempt to use the title of Junior Professional Engineers, stating there could be no such thing as a Junior Engineer. He recommended we follow the idea set forth by the National Society and use the title Engineer-in-Training."

"He also reported that in the past, the loose use of the single word Engineer has made it necessary for the Engineering profession to sacrifice this term in all future references to our profession. We should be known and addressed in the future as Professional Engineers in accordance with that title given us by the Oklahoma Professional Engineers' Registration Law. In other words, your mother or wife could be a very fine nurse, however, she could not be addressed as a Registered Nurse, unless she had fulfilled the requirements of the State Law. The mere fact that a person is a graduate of an Engineering school or has had years of experience in engineering work, does not entitle him to be addressed as a Professional Engineer, unless he has passed the requirements of the State Board of Professional Engineers in the state in which he wishes to practice."

The Engineering Profession Tomorrow

By Robert E. Doherty, Pres. S.P.E.E.

(From the Journal of Engineering Education)

At the recent meeting of the Society for the Promotion of Engineering Education held in Cincinnati, June 22-25, 1944, President Doherty delivered an interesting address on the Engineering Profession of Tomorrow. He states that:

The engineering profession tomorrow will be largely what engineering education today makes it. The policies of industry, government, and State Boards of course will have their influence. Nevertheless, the character of the profession—the height of its purpose, the extent to which its members live up to its ideals, the nature of its standards—must rest fundamentally upon individual convictions, individual attitudes, individual intellectual power; and these qualities are largely molded in college.

While it is not possible to reproduce in full the text of President Doherty, the following excerpts have particular significance. The American Engineer suggests that readers secure copies of the address which has been reprinted from the Journal of Engineering Education, Vol. 35, No. 1, September 1944.

Quoting further from President Doherty's remarks in the Journal of Engineering Education:

The second lesson of the war is that the engineering profession found itself near complete paralysis when there was need for unified action on matters of common concern in connection with the war effort. As a member of the Engineers' Council for Professional Development for six years, during the last three of which I was Chairman, I had first-hand experience in this matter. The problem was of course not new. The practical inability of the several branches of the profession to act in a common cause is traditional; merely, the fact that they could not effectively unite for common action in war indicates the depth of the malady. Their tradition of isolation is understandable in light of the history of the successive beginnings and independent growth of the several branches of the profession. But the world moves on; change is inevitable, even in the engineering profession. While I make no predictions as to the specific nature of the evolution of the profession, especialy of its organization, I do venture to predict that there will be—must be—change in point of view. The engineering profession must rise to a new level. That is our lesson from the war.

In the first place, I must raise the old question, What is the engineering profession?

Thought on this question is extremely confused. To mention one evidence, the E.C.P.D. Committee on Professional Recognition, after some ten years of futile effort to establish criteria of recognition, gave up this direct line of attack and turned to the engineering colleges in the hope of developing in the new generation a reasonably clear professional purpose—a professional consciousness and like-mindedness—that the present generation of engineers do not have. Engineers are objective and clearheaded on their work, but when it comes to defining their field, their professional relationships, their specific educational programs, these distinguished qualities seem to vanish!

Why, if our purpose is the cultivation of an intellect, do we feel under such irresistible compulsion to clutter the student's mind with an impossible tonnage of inert, undigested subject matters? We tend to include everything to the limit only of the student's time and endurance, and certainly at the cost of unfortunate sacrifices in thorough understanding and in the art of constructive use of the knowledge he does require.

Then I wish to submit a thought or two regarding the cultivation of method. This is educationally the crux. Intellectual power, not merely routine skills and memorized facts, is the primary end. Acquisition of subject matter without a cultivated intellectual method of applying it to practical situations is educational sterility. Such method and power are characterized by efficient intellectual approach, by the ability to relate ideas to situations. A few components are:

a. resourcefulness in identifying relevant data, in distinguishing the important from the trivial

b. ability to analyze a practical situation in terms of principle and to draw rational inference

c. resourcefulness in inventing means to an end

d. capacity to distinguish between a verified generalization and a doctrine or policy, between fact and opinion

e. habit of thorough understanding

f. capacity for making value judgments

g. ability to organize thought, to relate ideas logically, and to express them well in writing or speech.

These qualities do not appear spontaneously; they must be cul-

tiv ted. The colossal and tragic blunder in education today takes rise from the fallacious assumption that a mind crammed full of subject matter will automatically become a cultivated intellect.

Let me urge with all the force I can a shift in emphasis in educational planning from subject matter to entellectual method, from cramming to constructive thought, from the talking instrucor to the active student. Let us plan to cultivate precious intellectual qualities and thus give the students what they have the right to receive.

My purpose here has been to focus the attention upon our inescapable responsibility—the cultivation of a renaissance in the engineering profession. I have tried to show that the profession must rise to a new level, must become more closely knit, and that engineering education must bring it to this new estate. But this undertaking is hopeless unless we are much clearer on what should constitute the engineering profession, unless we have a corrspondingly clearer picture of what the individual member of the profession should be and therefore of the kind of education that will produce him. We can not develop such a profession and still continue to regard engineering as everything an engineer may do and to gloss over civic responsibilities.

The Twin Cities Plan

Post War Taxes

Perhaps the most discussed economic proposal presently before government and public is the "Twin Cities Plan" dealing with post war taxation. Although criticized by various financial experts, including Beardsley Ruml, the plan has found strong support in some quarters.

Released for publication on July 10th the Report, which is the result of a number of businessmen in the vicinity of St. Paul and Minneapolis deciding to present a consensus rather than individual expressions to Congressional invitation for opinion, states "Feeling that new and constructive measures must be taken to encourage production, if America is to provide the opportunities needed for its people after the war, and recognizing the necessity for a proper tax program in attaining this result, Minnesota business men have prepared this suggested postwar tax program, hopeful that a realistic, factual discussion of the factors involved may contribute to a solution of this vital problem."

Further excerpts include the following:

"Twin Cities Plan"

"The conditions that will face America after the war call for new measures. The national debt and other burdens growing out of the war will be so heavy that in order to defray the necessary governmental expenses and to service that debt, a national income far in excess of any we have known in the years of peace will be necessary. Foremost among the steps that must be taken, if we are to attain this objective, is the development of a tax system that will stimulate and encourage high levels of production and consumption. It must be carefully planned and designed, within the framework of our traditional American economy, to meet the new conditions that will confront us. Desirable in other times, such a program becomes imperative in the postwar period. Neglect of this problem, or the failure to meet it properly, easily may lead the people to seize upon expedients that will result in disaster for all."

"Venture Capital"

"The economic and social objectives that are our goal in America can best be attained within the framework of the private enterprise system, which has made possible the values so prized by us. The impelling force of the private enterprise system is available venture capital that can and will be used to finance new industries and expand established industries. Unless capital ventures in increasing amounts as our war production diminishes and our labor force expands year after year, our economy may become static or even retrograde. Every effort must be made to stimulate a continuous forward movement of our economy; otherwise we may find ourselves confronted with a choice between our concept of a continuous development and a regime of bureaucratic capitalism or socialism, foreign to American history and alien to the American temperament."

"Basic Premises"

"Taxation has been used to promote a variety of social and economic objectives. After the war, however, the United States must have as its broad objective a system of taxation that will be the least deterrent to high levels of production, wages, and employment.

"Without discussing the various administrative phases of taxation, this study places emphasis on certain vital factors that should be incorporated in any postwar tax plan.

"First. Sanity in expenditures is as much a part of a tax program as is the tax levying itself, and, therefore, expenditures must be kept to the minimum consistent with good government.

"Second. There must be adequate funds to meet the cost of the federal government. This does not necessarily mean that there must never be a deficit at the end of a fiscal year.

"Third. A plan for the retirement of the debt must be instituted. Those who 'viewed with alarm' the problems created by borrowing in the 1930's, when the gross debt never exceeded $41 billion, will find their apprehensions were as nothing in comparison with those after this war when the total may run as high at $300 billion, depending on the length of the war.

"Fourth. Private venture capital must be made available. The potential investor must not be so highly taxed as to preclude him from building up surpluses and investing them in the hope of sufficient ultimate rewards.

"Fifth. Income from corporate industry should not be taxed as at present. The corporation pays a tax on its net earnings, which is in reality a tax upon the stockholders, varying in degree with the ability of the industry to pass along these taxes. Then the stockholder pays a second tax on the same earnings when they are distributed as dividends.

"Sixth. In the past, the tax structure of the federal government has rested on such a narrow base that rates of taxation on income have become inordinately high in attempting to raise the necessary funds to meet the needs of the treasury.

"Seventh. It has not been a part of this study to examine or appraise the effect on our national economy of the present high taxes on estates and gifts. An examination of this area of taxation is obviously needed and should lead to a revision of the estate and gift tax laws providing more equitable and economically sound treatment.

"Eighth. The tax structure, once enacted into law, must have permanency, particularly those features having to do with corporate and individual income taxes.

"Ninth. The greatest incentive to business to plan its postwar course now, and one which would result in a speedy and orderly resumption of peacetime operations and employment, would be the enactment into law, as soon as possible, of a tax program in its entirety that would become effective at the cessation of hostilities. No 'piecemeal' adjustment of taxes should be tolerated, as this procedure prevents proper long-term planning."

The proposal presents figures to support its arguments.

From Minnesota

If you have not already read your June issue of the American Engineer from cover to cover, get it out and refer to the reprint of address made by Dr. E. M. Hammes of St. Paul before the House of Delegates of M.A.P.E. recently. Why not mark it and pass it along to your prospective members for reading? We think the editorial note accompanying the article is worth repeating here:

"In the light of time and experience, the M.A.P.E. has made remarkable progress toward the goal of an organized engineering profession. The maintenance of high standards, of conduct, of preparation, self-regulation of practice, manifestation of concern for public welfare, collaboration with other professions and society membership, are suggested as justification and activities for the professional organization.

"This address should be of interest to engineers in every state, and it is suggested that the several professional engineering state societies might follow the example of Minnesota and seek counsel from the State Bar and Medical Societies."

Fragments from

STATE & SOCIETY ACTIVITIES

DISTRICT OF COLUMBIA

Quarterly Report

President Lame of the D. C. Society furnishes the following:

It is felt that a quarterly review of the activities of this Society might be of some interest to members of other State Societies since the influx of engineers into the District has resulted in many prominent in the profession taking up their residence here on a temporary indefinite basis. With this in mind a cordial invitation is extended to engineers who are members of other State Societies or members at large of the National Society to attend our meetings, which are held on the fourth Monday of each month, excepting during June, July and August, at the PEPCO Auditorium at 8:00 P.M.

The March meeting which was held in the South American Room of the Hotel Statler was a splendid tribute to the activities Committee of the Society. Norman Littell, Assistant U. S. Attorney General of the Department of Justice, and head of the Division of Lands, delivered the address on "The Lawyer and Engineer," carried in the May issue of "The American Engineer". This meeting was unique in that two immediate past presidents of the National Society participated. Past President Lt. Col. J. W. Beretta of the Engineer Board at Fort Belvoir acted as toastmaster and Past President Walter S. Simpson (Col. U. S. Army Ret.) delivered a short squib on land titles in Louisiana as an introductory response. The attendance at this meeting was 110 members and guests indicative of a lively interest in this type of gathering.

Our April meeting, which was held at the PEPCO Auditorium, was addressed by Past President Lt. Col. J. W. Beretta on the subject of his experiences in Newfoundland and where he spent the last two years in charge of certain overall phases of the development. Notwithstanding the necessity for strict censorship, his able description of the country and its topography, as well as the natives, was enthusiastically received by an expectant audience of some 55 members and guests, comprising representatives from New Zealand, the Philippines, and England. It will be noted that this meeting had its international aspects.

Our last meeting, prior to summer recess, was held in May at the PEPCO Auditorium and our guest speaker was President Harry Nold, of our National Society, and Professor of Mining Engineering of the Ohio State University, who spoke on the subject of "The Professional Engineer's Acceptance of the Post-War Challenge". This Society deeply appreciated the honor accorded it by President Nold and wishes to take this opportunity to commend him for his fine talk. Other State Societies please note. This meeting was attended by about 60 members and also by Dean Steinberg of the College of Engineering of the University of Maryland, Dean Feiker of the Engineering College of George Washington University, and Dean Scullen of the College of Engineering of Catholic University.

Recently as the result of transmitting informative literature about the Society to licensed engineers residing in the District of Columbia and its suburbs, nine new members have joined the D. C. Society as follows: Engrs. R. Frank Hamilton, Max Weinroth, Wilbur S. Cooper, Nathan A. Leavitt, Charles H. Young, Oliver C. Dyer, Braxton H. Tabb, Jr., S. W. Hunt, George B. Roberts.

It is also noted that Engineer R. Frank Hamilton presented a technical paper No. 44-98 on "The Summation of Load Curves" to the Power Generation Clinic at the Summer Technical Meeting Missouri, on June the 27th.

The fourth draft of the proposed licensing law for the District of Columbia which has been under consideration for approval by the 13 member bodies of the District of Columbia Council of Engineering and Architectural Societies since midyear 1943, has apparently been indefinitely stalled by the lack of action of two founder society bodies and two other member bodies which have failed to report on the proposal. This lack of interest by the founder groups is inexplicable since the proposed bill parallels the Model Law as revised by their representatives on the Model Law Committee.

ILLINOIS

Makes Report

The collaboration of Max Suter again makes it possible to list Illinois among the monthly contributors of news to the American Engineer. Here is the evidence:

President J. H. Morgan visited five chapters of the Illinois Society of Engineers and addressed each on the subject of the economic condition of engineers. He stated that the future expansion of the Illinois Society must be based on increasing emphasis on the economic phases, rather than the purely technical aspects, in order better to meet the needs of the engineers and to be in a better position to cooperate with the National Society of Professional Engineers. The chapters addressed by President Morgan were: Illinois Valley at Streator; Rock River Valley at Dixon; Joliet Engineering Club at Joliet; Lake County, at Waukegan; Madison-St. Clair County at Belleville.

The Board of Directors of the Illinois Society of Engineers, at its meeting on June 10, decided to relieve the secretary of his editorial duties and to appoint an editor for the Illinois Engineer. Prof. W. A. Oliver of the University of Illinois was appointed editor.

The Board also appointed a comptroller for the society and declared this office to be ex-officio the function of the vice-president.

Max Suter

INDIANA

President's Message

A number of important subjects confront the I.S.P.E. during the ensuing year. One of the most important is that of collective bargaining. In order that we have a full and complete discussion of this vital question, it will be necessary that we have a much larger attendance than has been the custom for the past several years. Members have failed to avail themselves of the opportunity to discuss matters of importance in the "Indiana Professional Engineer," and my great hope is that the columns of our paper will be used in the future by the members for the expression of views. Because it involves the provisions of the National Labor Relations Act and the provisions of the Fair Labor Standards, the question of collective bargaining for engineers is somewhat complicated. What we need is discussion from the floor of the chapter meetings each month.

Committee chairmen, and members of the various committees, have been chosen with the thought that they will function as committee members. These are busy times, but we have to make sacrifices and only by making sacrifices of time will the committees be able to perform the work assigned to them.

The National Society is growing rapidly and is the only society of its kind, embracing in its membership all types of engineers. It bids fair to become the most outstanding engineering

society in the United States, and it is a matter for each individual member to lend his aid in making the Indiana Society to hold a place of prominence in the National organization.

With your aid, I pledge to the society all the time necessary to properly carry out the duties of your president, to the end that, when this chapter year is past, we can point back with pride to our accomplishments.

Our national president, Mr. Harry Nold, is held in the highest esteem in the engineering field, and is loved by all the members of the society who enjoys his acquaintance and friendship. He is an outstanding ability as a leader, and under his guidance the National Society should prosper as never before. Ed Larson, executive secretary of the National organization, is vigorous in action, industrious and filled with energy so necessary for the proper functioning of his position. My recent observation of his work is that he and President Nold will spark plug the society to heights never before thought possible.

Our own executive secretary, peerless Joe Quinn, has been untiring in his efforts to promote the interests of the Society, and the large number of new members which he has obtained in recent months is evidence of only one of the many activities which Joe has performed in behalf of our own State Society.

All I ask is cooperation from the individual members and their assistance in solving the problems which confront us, and I am sure that we shall have a successful year. I am appreciative of having bestowed upon me the honor of being president of the I.S.P.E. *M. W. Cameron*

MINNESOTA

President's Message

M.A.P.E. seems to be pulsating, throbbing, meeting, discussing, weighing and getting into action in almost every part of Minnesota and in a considerable degree outside of this state, having particular reference to our participation in the deliberations of the National Society of Professional Engineers (N.S.P.E.), of which our Association is a member society.

Most of our district societies are now realizing that effective continuity in its work dictates at least bi-monthly meetings. The metropolitan districts have come around to regular monthly meetings on a pre-established Friday evening toward the end of each month, except as holidays interfere, and even this number of meetings per year seemed inadequate to get things done, so you may find M.A.P.E. men each Tuesday noon at the Andrews Hotel in Minneapolis boring into some heavy problem in the interest and for the general welfare of the professional engineer, his ethics and standards of service to the general public.

We are spending every moment we can—and in many instances, I know, we sacrifice time that would otherwise be spent in recreation or in our respective fields of earning a livelihood, to attend to the tremendous amount of work already put in and still to be put in to insure passage of our present proposed amendments to the state registration law at the next legislative session.

We certainly know that all registered professional engineers and architects realize that these changes are necessary to facilitate the administration of the Act by the Registration Board and in turn make possible a higher standard of service to the general public.

We hope that in turn all those who have allied interest in the engineering profession will lend us their active support in getting this legislative program passed.

We feel that our biggest job is to get the educational program across. There seems to be a general approval as soon as the purposes are properly understood. We cannot forget, however, that any law is only as good as it is acceptable to the general public and as it is intelligently administered and enforced.

M.A.P.E. knows that it must accept the responsibility of policing professional engineering practices within its own ranks and by this means make possible the necessary support for the State Board.

We must first be unanimous in our convictions that engineering is a profession and then conduct ourselves and mould our policies accordingly. The only reason why law and medicine have outdistanced engineering in general public recognition as a profession is that they long since looked to their overall welfare, their ethics, their standards of practice while generally the engineer was too busy or too individual to believe that his future was jeopardized for lack of an overall group action.

Professional practice involves not only certain fundamental knowledge, training and experience, but also personal ability, character, leadership, a sense of fairness and an unquestioned honesty in dealing with client, dealer, contractor and the public.

As someone said to me recently after reading a discussion of professional engineering, "My, that certainly is a noble profession —but can you get the fellows to live up to it?"

I believe that remark hits the gong. The challenge certainly is to each member to live up to the profession of engineering.

Another realistic approach was voiced by George Shepard, St. Paul City Engineer and member of our State Board of Registration when he expressed this thought to me. "Every person who thinks he is a professional engineer should become registered." Further discussion emphasized the point that such a person should become registered whether he needs it in his work or not—for by this step he is able to give legal proof to all comers that in the appraisal of men of his kind he is a professional engineer. This might be classed as a personal pride of possession of a professional engineering status. *S. L. Stolte*

1943-44 Year Book

In a well ordered booklet the Minnesota Association of Professional Engineers sets forth the Objectives of the Society, the Cumulative Results of Committee Work, the Report of the Minnesota Council, the Reports of the Societies' Officers, the Personnel and Objectives of the Several Committees and a Roster broken into district listings.

To quote from the Year Book:

Minnesota Association of Professional Engineers

The Association:

The Minnesota Association of Professional Engineers (MAPE) is organized for the express purpose of having "one organization for the whole profession". Its members include representatives from all branches of the engineering profession. It acts as a clearing house for ideas and problems affecting the profession and makes available to the profession an organization for effective operation and action with units of the organization generally paralleling our political subdivisions, namely: national, state and district. Its most significant contribution is, however, the crystallizing of one voice for the engineering profession which can, because of its overall representation, speak effectively, forcefully and authoritatively.

The first requirement for membership is a legal qualification which means that an applicant must be registered as a professional engineer and licensed to practice his profession in the State of Minnesota. There is but one grade of membership, namely active, and one source of authority for the organization, which authority comes from the individual members.

Objectives:

The objectives of the Minnesota Association of Professional Engineers may be summarized as follows:

1. To continually study the State Registration Law for professional engineers and initiate and assist in the passage of such amendments as are in the interest of the general public and the engineering profession, will facilitate the administration of the act by the State Board of Registration, will raise the standards and ethics of professional practice and will improve the general welfare of the profession.
2. To promote within this State a professional consciousness and unity in the engineering profession through membership in M.A.P.E.
3. To seek continued improvement in the education of engineers.
4. To safeguard the interest of the engineer in training and to assist him in his efforts to qualify for registration as a professional engineer.
5. To strive for breadth of interest and civic-mindedness of the engineering profession.
6. To secure public recognition for engineers in connection with their work.

7. To encourage the development of worthy engineering projects.
8. To secure full utilization of engineering services.
9. To restrict the practice of engineering to those competent to practice.
10. To encourage improvement of the methods of engaging engineering services.
11. To establish standards of equitable compensation for engineering services.
12. To inform the public of the meaning of the term "Professional Engineer" and to discourage the promiscuous use of the designation "engineer".
13. To initiate and promote legislation in behalf of the engineer and to oppose any legislation tending to injure the interests of the professional engineer.
14. To support the publication of a national and state magazine devoted to the professional, social and economic interests of engineers.

National Affiliation:

The Minnesota Association of Professional Engineers is affiliated with the National Society of Professional Engineers whose headquarters are in Washington, D. C. The purposes and objectives of our National Society are similar, on a national plane, to those of M.A.P.E. in Minnesota.

Statewide:

M.A.P.E. is a statewide organization incorporated under the laws of Minnesota. The state is divided into nine districts, eight of which are organized into district societies. The governing body of the Association is the House of Delegates chosen by the membership of each district society. The House of Delegates meets at least once a year, elects all state officers, the state member to the Board of Directors of N.S.P.E., the delegates to the annual meeting of N.S.P.E. and passes all rules for the government of the members. The business of the association between meetings of the House is carried on by the Council which is composed of the state officers, the president-elect, the past president and one councilor from and as elected by each district society. An average of six Council meetings are held during each year upon the call of the president.

District Society:

Each district society elects its own officers, is governed by the articles of incorporation and by-laws of the Association and by its own by-laws. Each district elects delegates to the House in proportion to its membership Each member of the Association must be a member of a district society. The district societies, under general guidance of the Association, carry on the work of the Association locally. They provide opportunity for the membership to meet conveniently to discuss and act upon matters of interest to the Association, provide the means of close contact between the membership and the State Association and provide an opportunity for active participation upon the part of each individual member in the affairs of his professional organization.

Dues:

Dues are $16.00 per year to the state association, which includes dues to the National Society of Professional Engineers plus district society dues which are usually $1.00 per year and plus dues of $2.00 to the Minnesota Association of Engineering Societies for those members not already paying such through some other Society.

The "Why" of M.A.P.E.

There are 1,008 resident registered engineers listed in the 1944 Year Book of the State Board of Registration. These are engineers qualified in the various branches of the engineering field such as aeronautical, architectural, chemical, civil, electrical, highway, mechanical, structural and allied fields. Generally, these respective branches do already have technical societies representing their respective branches but this Association was organized because there was no one group or body that could properly represent on a professional level the cumulative or overall interests of all of these branches of engineering.

To Assist The State Board of Registration:

The responsibilities of the State Board of Registration are necessarily one of examination and administration of the conditions of the Registration Act. The responsibility of policing and enforcing the Registration Act, we believe, can be immeasurably assisted by a group representing the overall professional engineering interests of the state and in this way strengthen and assist the position of the Registration Board.

Conclusion:

Through sound, active organization, the status of the engineering profession can be greatly improved in its service to the public and thus return economic and social benefits to the individual engineers. The status of the professional engineers as individuals varies in direct proportion to the status of the profession as a whole.

Our field is public welfare and collective advancement, a better understanding of our profession by the public and the employer, more adequate recognition and compensation, a protection against encroachment by trade and sub-professional groups, a closer cooperation with other professions and voluntary policing of our profession to enforce a high standard of ethics.

Councilors

Mark Brataas	District 1, Rochester
Albert M. Kircher	District 2, Mankato
Louis Knudsen	District 3, Brainerd
Harold E. Chard	District 4, St. Paul
Chas. E. Doell	District 5, Minneapolis
Egil Wefald	District 6, Minneapolis
John F. O'Meara	District 7, Windom
J. Grant Waits	District 8, Duluth

Past Presidents

R. R. Herrmann	Past President—1943
Aubrey C. Leonard	Past President—1942
Clyde L. Methven	Past President—1941
Leonard N. Thompson	Past President—1940
Hibbert Hill	Past President—1939

Report Of President To House Of Delegates

A year ago the outlook of things generally was not as hopeful as it is today. Our own organization was in the midst of a legislative session trying to muster sufficient votes to assure passage of the proposed amendments to the Registration Law. Many of our staunchest supporters were leaving for service abroad and elsewhere in this country. Nevertheless, we managed to carry on.

You have heard the reports of the several committee chairmen and will hear those of the other officers, so it will be unnecessary for me to refer to them. There are, however, a few matters which I shall mention.

Visits To Districts

During the year I visited each District Society at least once. During May I visited District No. 3 which held its meeting at Brainerd; during June, District No. 2 at Mankato, and No. 6 at Marshall; during July, District No. 1 at Rochester; during August, District No. 8 at Duluth, and District No. 7 at Alexandria; during December, District No. 2 at Mankato, and just a week ago District No. 7 at Virginia; and of course District Nos. 4 and 5 several times. I enjoyed these visits very much and feel that they have have been very much worth while. In several instances the Districts had questions which we were able to answer and in other instances we found that some members had not been receiving their copies of our News Letter and the Bulletin.

Council Meetings

Council meetings were held in March, May, July, October and last month. A review of the business transacted at these meetings has been published in the Bulletin and the News Letter so I shall not discuss them now, except to say that there was always great enthusiasm and much discussion. Meetings were held in Saturdays and usually began at 9:30 a.m. and did not end until 3:00 or 4:00 o'clock in the afternoon. This in itself is evidence of the interest each one had in the topics discussed.

Public Relations

Several instances arose requiring action on our part where a matter of professional conduct was considered. In one instance it was necessary for us to call to the attention of a city council the Registration Law, to save them from the embarrassment of engaging an unregistered man as city engineer. Because of the scarcity of registered engineers, some temporary arrangements were necessary to assist certain counties who were unable to engage a registered man. These matters, because of their delicate nature, were handled in a confidential manner, so it is impossible for me

to give more information at this time. Neither are we in a position to prejudge one of our members who may find himself in difficulties. It is better to assist than to condemn.

Induction With N.S.P.E.

An important event of the year was our induction into the National Society of Professional Engineers on July 9th. An impressive program was arranged by Charles E. Doell, and his committee appointed especially for that purpose. Engineer L. N. Thompson, President of the Minnesota Federation of Engineering Societies, and Engineer F. W. McKellip, President of the State Registration Board for Architects, Engineers and Land Surveyors, spoke for their respective organizations; Engineer C. L. Methven, one of the founders of M.A.P.E. made a few choice remarks on the early history of our State Association; and Dean S. C. Lind mentioned the side of the Educators. The principal speaker, President H. E. Nold of the National Society, was introduced by Director Walter H. Wheeler. The arrangements for having Director Wheeler introduce Secretary Larson who in turn introduced President Nold were made at the instigation of Secretary Larson. The mystery of this request vanished after Secretary Larson finished his introduction and we can all say that the granting of the request was wisdom. President Nold and Secretary Larson were invited to attend our Council meeting held the next day, which they did. We benefited considerably by their doing this, as their knowledge of the situation elsewhere pointed out the course of action to be taken here. One of the matters they advised on, was the collection of dues, notices of which are now sent out by our State office instead of by the District secretaries.

University Contacts

Through the Technical Commission and the assistance of Dean S. C. Lind, we were given privilege of talking to several classes of senior engineers at the University of Minnesota and also to open meetings scheduled during the convocation hour in the spring and again in the fall. Much interest was shown by the students and were it not for the fact that nearly all of them would shortly be in the armed forces, I feel their interest would extend to applications for registration—certainly after the law is amended to include engineers-in-training.

Correspondence

Letters were written to the Congressmen and Senators from this state concerning such things as Post-War Planning. The Kilgore Bill, etc. We offered our services to the Governor of this state to assist in Post-war Planning and before Governor Stassen left for the Navy we suggested candidates to fill the vacated posts on the Registration Board. The most of these have been mentioned in either the Bulletin or News Letter so I shall not dwell on them now.

Membership

While our membership has not grown materially, it has grown and this is the important factor. Thirty-three new members were obtained and one member was reinstated, making thirty-four. The net gain, however, was only thirteen because of eight resignations, three deaths and compulsory dropping of ten from the rolls. Our Constitution requires dropping a member who has not paid his dues by October 31st.

Financial

You will hear from our Treasurer shortly. May I just call your attention to the fact that in spite of the waiving of dues of those members who are in the armed forces, we have over $1,800 in the treasury. This is partly due to the greatly reduced salary paid our Executive Secretary who was forced to reduce his time with us to evenings and occasionally on Saturdays.

District Assignments

Several districts were asked to undertake special assignments. One of these was a study of the Wage and Hour law and the related laws, together with their administration and court decisions, with special reference to their effect on the Engineering Profession. District No. 8 undertook this study with the result that the editor of the Bulletin, sensing the importance of the report, published it in full in the last number of that magazine. Besides the foregoing, this District secured Mr. Thomas McCabe, an attorney in Duluth, specializing in labor law, to speak to us engineers tomorrow afternoon. We are looking forward to his address.

Agenda

At our October council meeting one of the councilors made the suggestion that an agenda of activities for the coming year for the incoming officers be prepared. H. E. Chard kindly consented to act as chairman of such a committee and prepared an agenda which will be submitted to the incoming officers to use as they see fit. There are a great many problems to be solved and much is to be done if we are to reach that status in the opinion of the ordinary citizen which the engineering profession deserves. This agenda included, among other things, publicity to be given to the Wage and Salary schedules adopted, which in my opinion, is something which should not be delayed. Some means must be devised to inform public officials who engage a professional engineer as to what may be expected in the way of services to be obtained for the salary paid. Similarly, industrialists and others employing engineers will welcome some sort of salary and wage scale acceptable to engineers and submission of this to employers should not be delayed any more than is necessary. While the salary and wage stated in this document is not iron-clad and cannot be enforced by means of strikes, nevertheless, it should act as a guide to obtain fair play between employer and employee. This same thought is contained in an appeal by the National Society in the January number of the American Engineer.

In addition to these, I believe some consideration should be given to the conduct of the employer and what additional factors outside of monetary compensation are desirable. For example, in order to keep up with his profession, an engineer should be permitted to attend engineering conventions. Every employer of engineers should recognize and allow time for such activities, in addition to the regular vacation allowance. By so doing both the employer and employee are benefited. In my opinion employers of engineers recognize this situation, so there is little reason to believe the suggestion would not receive a favorable acceptance.

Resignations

The foregoing is of course but a brief summary of the activities. Possibly more could have been accomplished had several chairmen of our committees not been forced to resign. This made it necessary to secure others, to take over the work, and sometimes a considerable amount of time elapsed before a new chairman was appointed.

Mr. John Swanberg, chairman of the Membership Committee, entered the government service and offered his resignation. This was quite a blow because each of us expected good results from this committee. Mr. Swanberg was chairman of a similar committee of District No. 5 the previous year and did a splendid job then, so naturally we were extremely pleased when he agreed to accept the chairmanship of the State Membership Committee, Mr. R. N. Lohn agreed to take his place

Toward the end of the legislative session, Mr. H. E. Palmer, chairman of the Legislative committee, also entered the government service and resigned his chairmanship. Our able executive secretary, Archie Beaubein, did his best to carry the ball and succeeded in getting a majority of the legislators to vote for our bill, but there was an insufficient number present to qualify passage. Wright Cockroft agreed to take Mr. Palmer's place.

Our Speaker's Bureau chairman, Mr. J. E. P. Darrell left us to serve in the armed forces. Needless to say, this was quite a disappointment because we had hoped to have this committee active and Mr. Darrell, with his position in the Highway Department, was particularly well qualified to head this committee. After considerable lapse of time we secured our Past President, Mr. A. C. Leonard, to assume the responsibility.

Our Executive Secretary, Mr. Beaubein, was forced to curtail his time allotted to us and felt that because he had accepted a full-time position with the War Manpower Commission he should resign as Executive Secretary. We prevailed upon him to continue with us on a very limited basis at a greatly reduced salary. We hope that the time is not too far distant when we shall be able to employ a full-time secretary.

During December of last year, Mr. E. S. Rankin, our President Elect, felt that because of the location of Brainerd and the present driving restrictions, it would be difficult for him to do the requisite amount of travelling, and for that reason as well as some others he would prefer to resign. We regret exceedingly that Ed Rankin

took this action and hope that when peace returns again and restrictions imposed now because of the war are removed, that a nominating committee will again prevail upon him to become a candidate for the presidency.

Conclusion

This report is necessarily brief but we believe that it covers our major activities during the past year. I am deeply indebted officers and committee chairmen. Mr. Stolte has contributed untiringly of his time; Mr. McWethy has labored late and long on for the splendid cooperation and help received from the other his registration activities; Mr. Doell, in his capacity as Councilor and editor, has materially assisted us; Mr. Wheeler has kept us from wandering too far off our roadway and each of the other chairmen and officers has done his part. With such splendid spirit and such tireless energy our organization is bound to advance. Its success is assured. I thank each and every one of them and wish there were time to elucidate further so that credit might be given to each who so nobly deserves it.

News Letter Items

Issue No. 16 of the Minnesota Association contains the following along with other items:

Our Membership Gains

Encouraging reports on our drive for new members continue to come in from all parts of the State. We now have reached the 402 mark toward our goal of 600. We believe this is most promising, considering that there are only about 1000 engineers registered in Minnesota, and many of those away at war or on other job locations. Harold E. Olson, vice chairman of our state drive, also reports that a number of prospective members are nearing the "application" stage. He says that District 4 is to be commended for its initiative in sending out 114 letters to prospective members. Follow-up letters will go out shortly.

New Publications

Our two new publications are off the press—the Year Book, and the Fees and Salary Schedule. The latter assumes greater importance in the light of recent correspondence and meetings with representatives of the N.L.R.B. and the Wages and Hours Division. May we suggest that you use the Year Book as a talking point in your membership drives. The functions of the fourteen committees mentioned, together with the officers' reports, sum up the aims, objectives and policies of the professional engineer and this Association.

Registration Increases

It is apparent that the present meeting of the State Board of Registration is having a windfall in new registrations. We feel that this undoubtedly stems from our educational program's attempt to interest more engineers in registering.

National Secretary Visits Here

Edward Larson, national executive secretary, has been spending some time recently visiting at St. Croix Falls, Wis. We have taken advantage of his nearness to have a number of pleasant visits with him. Local and national problems have been discussed to our mutual benefit.

By the way, our neighboring state of Wisconsin was formally inducted into the N.S.P.E. on May 26. Let us now look to our other neighbors and assist in planting the thoughts that will lead to their N.S.P.E. affiliation. Iowa should be especially concentrated on by any one exposed to the opportunity to do so.

NEW YORK

Erie County

Committee Chairmen

Following are the chairmen appointed for the coming year by President Bernard: Program Committee, John J. Landers; Committee on Investigation of Candidates for License, Edward J. Nunan; Ethics and Practice Committee, Michael D. McDonald; Membership Committee, Gust H. Karlsteen; Education Committee, Carlos E. Harrington; Public Relations & Editors of Bulletins, N. Stanley Snyder, Michael D. McDonald; Legislation Committee, J. Leo Scanlon.

University of Buffalo

The University of Buffalo is forming an Advisory Committee of Engineering to help inaugurate their School of Engineering, and has asked our Chapter to appoint a member for consideration. We are fortunate in having Carlos E. Harrington who has consented to have his name submitted as a candidate. The School and the Niagara frontier will certainly benefit from his years of association with the University and his close contact with the engineering profession.

New York County

Elects Officers

Following are the officers, directors and committeemen recently elected by the New York County Chapter:

President, George J. Nicastro; Vice Prsidents, Horace A. Johnson, George T. Minasian; Secretary, Anthony W. Deller; Financial Secretary, Douglas G. Hubert; Treasurer, A. Lewis Nicolai; Directors 1944-1946, Walter E. F. Bradley, John D. Constance, Harold H. Funk, Arthur Greenfield, Anatole F. Gruehr, William F. Kennedy, Ole Singstad, Earl B. Smith, Philip Sporn, David B. Steinman; Nominating Committee 1944-1945, Walter E. F. Bradley, Earl B. Smith, William F. Kennedy, John D. Constance, Arthur Greenfeld.

Queens Chapter

Issues Summer Bulletin

The Summer Bulletin dated July 10th has just been received. Among the items of general interest are the following:

At the last meeting of the Chapter, the following engineers were elected to membership in the Society: Miss Elsie Eaves, Messrs. Gerald Friedman, Angus Henderson, Allan A. Griffin, Edward J. Murphy. Queens Chapter now boasts of two members of the fair sex as professional engineers. Mr. Edwin S. Tweedy became a member of the Queens County Chapter by transfer. An application for membership has been received from Mr. C. P. Xenis. This application will be acted upon at the September meetings of the Chapter. The Active Membership of the Chapter totaled 138 on June 1, 1944.

The Engineering Societies Joint Committee on Salaries for Civil Engineers and Architects will continue its meetings throughout the summer.

The committee for Expansion of Society Activities and Study of Dues reports: In order that the Committee may obtain the opinion of the members on various economic matters, and the desired expansion of State Society activities, there is attached a questionnaire relative to this subject. The recent attempt to revise the Constitution of the State Society and thereby increase the State Society dues, was defeated and resulted in some question as to the ruling sentiment of the members. Therefore, please fill in and return this questionnaire in the enclosed postage-free envelope, in order that your committee may be in a position to make definite recommendations.

To Members Of The Queens County Chapter
New York State Society of Professional Engineers

As you have been informed the proposed Constitutional Amendment to increase State Society dues was defeated by a small margin. We of the Queens County Chapter believe that our votes may have had considerable influence in this matter. If this is so, it seems only right that we should follow up this action with some constructive proposals. In order to do so and at the same time make use of the ideas of as many of our members as possible, we are asking you to give us your suggestions.

For convenience we have prepared a set of questions to serve as a nucleus for this information. If you will be kind enough to answer the questions, it will be of great service in making our work of real value to the Society. Please do not feel limited to only answering the questions but suggest anything that you feel will contribute to the work we are attempting to do.

Are you in favor of the State and National Societies doing the following:

	Yes	No
1. Initiate a legislative program with the object of strengthening the Licensing Law.	____	____
2. Prosecute in court, cases of infringement of the Licensing Law	____	____
3. Establish and maintain an employment or placement bureau.	____	____

		Yes	No
4.	Establish and maintain a directory of professional engineers listing complete educational and professional qualifications.	____	____
5.	Represent engineers in economic matters.	____	____
6.	Attempt to have the National Labor Relations Act revised to exclude engineers from its provision similar to the medical and legal professions.	____	____
7.	Publish a monthly bulletin of the State Society's activities in addition to the "American Engineer" now distributed to members.	____	____
8.	Establish and maintain constructive cooperation with technical societies on the basis that the National and State Societies represent the profession in law enforcement and economic matters, and other societies cover the field of technical advancement.	____	____
9.	If you are in favor of any or all of the above increased activities, would you favor the employment of a paid full-time executive secretary and office staff to carry on this work.	____	____
10.	Do you favor increasing the State Society dues to carry out the above listed increased activities.	____	____

Members in the Armed Services

Major Geo. N. Bruns, U. S. Army
Lieut. Cyril J. Corwin, U. S. M. C.
Lieut. Albert C. Gray, U. S. Army
Major Carl E. J. Haiss, U. S. Army
Lieut. Francis P. Keegan, U.S.M.C.
Lieut. Joseph G. Mathews, U. S. Army
Major Robert J. Morton, U. S. Army
Corporal Olaf F. Olson, U. S. Army
Capt. John A. Palmer, U. S. Army
Lieut. Edward M. Richards, U.S.N.R.
Ensign Benjamin P. Robinson, U.S.N.R.
Lieut. Anton Sparr, U. S. Army
Lieut. Commander Wm. H. Walker, U.S.N.R.
Lieut. Commander Walter P. Warendorff, U.S.N.R.

Ed. Note: The Queens Bulletin contains Chapter, State Society and National Society News Sections in a splendidly condensed form.

OHIO

Continues To Set Pace

Activity throughout the state accounts for the expansion and effectiveness of the Ohio Society Its officers and directors are active, its chapters are active, its members are active.

An outstanding evidence of effective endeavor is the society publication, the Ohio Engineer. It comes out on time, it is well ordered, it reports on its Chapters. The American Engineer wishes to express openly its sincere appreciation of the collaboration of the Ohio Society and the Ohio Engineer. Both do more than any other single source to make possible the American Engineer which must have news to exist. An example of cooperation is the following: The Executive Committee, acting for the Board of Trustees in recess for the summer, met on July 7th; the Ohio Engineer containing the report of the meeting was in the mail on July 13th; The American Engineer received a copy on the morning of July 15th. Ohio had used air mail special delivery to insure early arrival. This is how Ohio works.

Quoting from the July Ohio Engineer:

President's Letter

Fellow Engineers:

I am sure you do not want to read a long letter from the President in the middle of July. Therefore, I give you this month a poem by Berton Braley. He called it "The Thinker" but it might even more appropriately be entitled "The Engineer".

Back of the beating hammer
By which the steel is wrought,
Back of the workshop's clamor
The seeker may find the Thought,
The Thought that is ever master
Of iron and steam and steel,
That rises above disaster
And tramples it under heel!
The drudge may fret and tinker
Or labor with lusky blows,
But back of him stands the Thinker,
The clear-eyed man who knows;
For into each plow and saber,
Each piece and part and whole,
Must go the Brains of Labor,
Which gives the work a soul!
Back of the motors humming,
Back of the belts that sing,
Back of the hammers drumming,
Back of the cranes that swing,
There is the eye which scans them,
Watching through stress and strain,
There is the Mind which plans them—
Back of the brawn, the Brain!
Might of the roaring boiler,
Force of the engine's thrust,
Strength of the sweating toiler—
Greatly in these we trust.
But back of them stands the Schemer,
The Thinker who drives things through;
Back of the Job—the Dreamer
Who's making the dream come true!

T. W. Rolph

Executive Committee Meeting

The regular meeting of the Executive Committee was held on July 7th at the home of Executive Secretary Chacey. The Board of Trustees, having recessed for the month of July and August, left the business of the Society in the hands of the Executive Committee.

Suggestions for nominations for officers in N.S.P.E. were considered. A resolution relative to barring from membership in our society all Engineers who belong to unions was presented. A lengthy discussion of unions and the Society's attitude on the subject resulted in a suggestion that a resolution might be drawn up and published in the brochure on Engineers in Industry which is being prepared.

Two resolutions from N.S.P.E. were read which requested that O.S.P.E. help secure a uniform registration law throughout the U.S.A. and help obtain compliance to the State license law by engineers in public employment. The Executive Secretary was instructed to send a letter to the N.S.P.E. pointing out that Ohio has the "Model Law" with the additional provision creating Engineers in Training. He was further instructed to send a copy of the County Engineers law which provides that they must be licensed Engineers.

Discussion of the proper wording for a licensed engineer's letter-head brought out the suggestion that licensed Engineers should refrain from using the "branch" designation. The proper way to have a letter-head read is "Professional Engineer". Any special lines of work can be called to the attention of the public by stating the specialties.

The report of the committee on the Salaries of Engineers in State Employment was presented and accepted (it will be printed in a later issue of the Ohio Engineer).

Chairman Kennedy of the Violations Committee reported that the use of the words "Sales Engineer' in the advertising of a Tractor Manufacturer will not be continued. Further discussion of violations and the approval of the bills brought the business meeting to a close.

After the business meeting the men joined their wives in Chacey's back yard where a picnic supper was served. The Chaceys qualified as picnic engineers by having the food protected from the ever present flies by a Malay mosquito net and by having home-made ice cream for dessert.

Chapter Activities

Akron District—The June dinner meeting, as reported by Secretary Sauter, was attended by 74 members and guests. During the business meeting visiting President Neff of the Cleveland Chapter

was called on for remarks about the activities of his chapter. The speakers of the evening were President Rolph speaking on "Engineers in Industry" and Frank C. Tolles speaking on "Collective Bargaining". Both speakers were well received by the group.

Central Ohio—The June dinner meeting with 80 present included members and wives. Publicity Chairman Wells sent along a 12-inch newspaper column telling of the entertainment which consisted of a trip to Alaska over the military highway and an attack on Kiska. The trip was made real by the colored slides of W. H. Spindler, editor of the Highway Magazine. The attack was presented by Cpl. Henry Gierhart of Lockbourne air base and was a film called the "Battle of the Aleutians".

Dayton—A new venture for the Dayton Chapter is reported by Secretary Buck for June. It is the start of a "newsy pamphlet, paper or scandal sheet" (Congratulations, Dayton!) "The Chapter's response to the May meeting with N.S.P.E. President Nold speaking was certainly the most heartening thing that has happened to the Society." A picnic was planned for June 21st.

Hocking Valley—Two newspaper clipings sent in by Secretary Harding tell of the plans for and the annual outing sponsored by the Logan Clay Products Co. Over 200 guests were there and over 100 of them were Engineers from the local and neighboring chapters. The principal speaker was Murray D. Van Wagoner, former Governor of Michigan, now a consulting Engineer in Detroit, E. K. Sheffield, General Manager of Logan Clay Products, welcomed the guests, many of whom were introduced by Boyd Wright. The afternoon was spent playing golf. The buffet style chicken dinner, arranged by B. A. Holl, was excellent.

Mahoning Valley—Secretary Stoll's minutes report 50 present for their June dinner meeting. Electronics was the subject of a talk and movie by Mr. DeCroce of Westinghouse Electric. Membership Chairman Gayton sent a letter with the pamphlet "The Second Mile" to every licensed engineer in the Chapter's territory. (Has your chapter contacted all the licensed engineers in your territory in 1944?)

Marion—Secretary Taylor sent along the results of Publicity Chairman Lant's work, two articles in the local newspapers about their dinner meeting to which the wives were invited. The entertainment was those beautiful colored slides shown by W. H. Spindler of Middletown taken on his trip over the Alaska Highway.

Ohio Northern—As reported by Secretary Stultz, who sent a newspaper clipping along, the Chapter members heard a talk on life in Malaya. Executive Secretary Chacey (he took some bantering from the Chapter about Ohio Northern having lost the Trophy) spoke briefly about the professional movement and then displayed his many curios from the Far East.

Springfield—The minutes of the June meeting sent in by Secretary Steiniger tell of the business and professional matters discussed, as well as the speaker and his subject. Henry M. Beckley talked about coal, its production, use, etc. Mr. Beckley has a complete list of vital statistics to satisfy anyone in search of the pertinent facts on coal supply.

Toledo—Secretary Hallauer sent along letters showing the method of nominating officers in the Chapter. It is worthy of note that only those who have their dues paid by July 16 will be eligible to vote or hold office. The officers are to be nominated by secret ballot and elected at the annual meeting in September.

Zanesville—The minutes of Secretary Painter reveal that a dinner meeting was held in June. The speaker of the evening was C. P. Hoover, chemist for the Water Works Division, Columbus, Ohio. Engineer Hoover conducted an interesting discourse on water treatment and costs for a proposed softening plant at Zanesville. After a recess the usual business meeting was conducted.

Issues 1944 Directory

The 1944 Directory of the Ohio Society has recently come to hand. Included in the Contents are: Officers and Board of Trustees; Functional Groups; Committees; Roster of Members; Constitution and By-Laws; Code of Ethics Historical Sketch; Citations; National Membership; Chapter Membership.

To quote from the Aims and Objectives of the Society:

With the engineering profession receiving the legal recognition to which it has long been entitled, there is a responsibility placed upon Engineers to protect, defend, and develop themselves along professional lines. We devote the entire resources of the Society to improving the professional outlook, and toward this end the Ohio Society of Professional Engineers dedicates itself to the attainment of the following objectives:

1. To strive for breadth of interest and civic mindedness among members of the engineering profession
2. To promote the appointment of representative, qualified engineers on public committees, boards, and commissions
3. To build up public appreciation of the engineering profession
4. To improve and strengthen the civil service
5. To encourage improvement in the methods of engaging and utilizing engineering services
6. To secure full utilization of engineering services by government and industry
7. To enlighten the public as to the correct use of the designation "Professional Engineer"
8. To secure public recognition for engineers in connection with their works
9. To encourage the development of worthy engineering projects
10. To protect the public and the profession against the unlawful use of the terms "Engineer and Surveyor" and to promote strict enforcement of the registration law
11. To secure a unity of professional thought and action among all classifications of engineers through fusion with one professional engineering organization, the National Society of Professional Engineers
12. To emphasize ethical conduct and proper practice within the profession
13. To cooperate with engineering colleges in the maintenance and strengthening of standards of engineering education
14. To initiate, promote and support legislation of vital interest to the engineer and to oppose any legislation tending to injure the interests of the profession
15. To restrict the practice of engineering to those competent to practice
16. To bring local laws, ordinances, and codes into conformance with the registration law
17. To safeguard the interests of the "Engineer-in-training" and to assist him in his efforts to qualify for registration as a professional engineer
18. To promote strict enforcement of the registration law
19. To establish standards of equitable compensation for engineering services
20. To eliminate the furnishing of advertising of so-called "free engineering service" by industrial and commercial organizations.

OKLAHOMA

Publicity Committee Report

The following have been excerpted literally from the comprehensive report of the Publicity Committee of the Oklahoma Society transmitted by Chairman William Ritzhaupt:

The June Director's Meeting was held in the Sooner Room of the Huckins Hotel, Oklahoma City, with Engineer, C. S. Larkey, Second Vice-President presiding.

V. J. Bodovitz, Attorney for the Society gave his report on the status of the Junior Professional Engineers advising that we should not attempt to use the title of Junior Professional Engineers, stating there could be no such thing as a Junior Engineer. He recommended we follow the idea set forth by the National Society and use the title "Engineer in Training."

He also reported that in the past, the loose use of the single word "Engineer" has made it necessary for the Engineering profession to sacrifice this term in all future references to our profession. We should be known and addressed in the future as "Professional Engineers" in accordance with that title given us by the Oklahoma Professional Engineers' Registration Law. In other words, your mother or wife may be a very fine nurse; however, she can not be addressed as a "Registered Nurse," unless she had fulfilled the requirements of the State Law. The mere fact that a person is a graduate of an Engineering school or has had years of experience in engineering work, does not entitle him to be ad-

dressed as a Professional Engineer, unless he has passed the requirements of the State Board of Professional Engineers in the state in which he wishes to practice.

The Board then proceeded to advance C. S. Larkey to President of the Society and confirmed Engineer C. A. Stoldt as acting First Vice-President and Engineer T. P. Clonts as acting Second Vice-President upon recommendation of the committee appointed to fill these vacancies.

The President then submitted his report on the meeting he attended of the National Society of Professional Engineers which we incorporate in its entirety herewith:—

President's Report

"In reviewing my impression of the papers and discussions I heard at the National Society of Professional Engineers in their meeting in Milwaukee, May 26 and 27, I could not help but note the earnest and intense interest each member of the convention had in every question presented that in any way affected the status of the Professional Engineer. Long and interesting arguments ensued many times, but without heat or rancor, each participant intent upon the central theme of discussion, which left no room for trivialities or personalities.

One of the subjects to which considerable time was given was that of the engineers' status under the National Labor Relations Act.

Probably Oklahoma engineers have not been faced with the problems of unionization that have confronted some of the more highly industrialized states, but it is inevitable that such consideration must be met in the future, if present trends are indicative. Therefore it is well to be prepared when such exigencies do arise.

With the induction of the Wisconsin Society into the National organization, the N.S.P.E.'s membership now exceeds 8,000 members. This growth is in keeping with the uninterrupted curve of expansion of the National Society since its organization in 1934. Average over its life a gain of over 800 members per year has resulted, such gain having been at an almost constant rate since 1939.

Secretary Larson expressed the opinion that the growth of the National Society in the future would come from the western states inasmuch as the majority of such states are not as yet identified with the N.S.P.E., whereas most of the northern and eastern states are already member-societies.

Respectfully submitted,
Charles S. Larkey

Society Notes

A committee has been appointed to nominate Directors for 1945, such nominations to be submitted to the membership.

A convention committee was appointed to work with and assist the meetings committee consisting of Engineer Clarence K. Bullen, Chairman, Engineer Guy James, Engineer G. E. Larason, Engineer Cecil Perkins and Engineer M. B. Cunningham to make arrangements for the state convention to be held in Oklahoma City, January, 1945. This committee will select the dates and hotel and submit this information to the Publicity Committee on or before July 10. 1944.

The annual audit was read and approved. The following district chairmen reported:—

District No. 1, Engineer Cabbard, Stigler, Oklahoma, reported one meeting with six members present.

District No. 8, Engineer C. A. Stoldt reported no meeting, eighteen members available in the district.

District No. 10, Engineer John C. Simonson reported one good meeting had been held and a joint meeting of District 8 and 10 will be held at 6:30 P. M., July 14, 1944 at the Huckins Hotel, with dutch lunch and entertainment.

PENNSYLVANIA

Beaver County Plan

The County Commissioners of Beaver County have presently before them a comprehensive planning report recommending the expenditure of some $52,000,000 on a five year public and private works program, which, in the opinion of Michael Baker, Jr. retained for the purpose of preparing a Master Plan for the County and its urban areas, will provide against unemployment following the war.

"It was pointed out to Commissioners Arthur W. Coombs, Joseph S. Edwards, and Thomas D. Gilkey, in a list of the projected proposals, that the cost to Beaver County of engaging in such a five-year public improvement plan would amount to 5.3% of the total or $2,736,000, with State, Federal, and private money making up the balance of the $52,432,500.

As a cushion to take up the shock of post-war unemployment, this five year program is expected to provide 3,004,500 man-days of work, or virtually enough to absorb the 13,000 jobless which it is estimated will be created in Beaver County when hostilities cease abroad.

The main proposals in the Report for improving Beaver County fall under a 'Control Plan' and include, among other things, new and much needed airports, parks, swimming pools, housing, highways, bridges, flood control dykes, water treatment plants, sewerage, reforestation, and soil erosion control. Realizing the economic impossibility of trying to attempt this entire program at one time, it is suggested that a plan of procedure be adopted using the step-by-step method in accordance with the abilities of the various communities to finance such a program.

Of the total $52,432,500 to be spent on the five-year improvement program for Beaver County, local communities would contribute approximately $5,000,000 by assessment or other means, while the County's participation, as stated, would be $2,763,000. The bulk of the balance of the funds required to carry out this post-war program would be made up as follows: $15,526,200 from the State; $7,815,800 from the Federal government; and $18,565,000 from the private industries. The remainder would include expenditures for land acquisition shared by the Federal government and private enterprises and labor costs contributed by the State and Federal agencies for reforestation projects.

According to the financial studies revealed in the Report, Beaver County is in excellent shape to undertake this five-year public improvement program on a pay-as-you-go basis. The County's assessed valuation placed at $100,000,000 permits an allowable debt of $7,000,000 or subtracting the bonded debt, there is left a borrowing capacity of $4,000,000. It is suggested that one way to get money for improvements is to freeze surpluses allowed to accumulate during war time for post-war expenditures, as New York has done. For example, if the County tax rate remains the same 8.5 mills and surpluses are allowed to accumulate through an Act of Legislature, this would provide a sum of $5,406,000 from 1945 to 1960. Also other ways of finding the money by using Municipal Authority financing through self-liquidating types of short term bond issues are proposed."

TEXAS

Professional Unity Grows

Under the above caption the Texas Professional Engineer for June advises that the Texas Section of the American Society of Civil Engineers "adopted a report by a Special Committee on Employment Conditions that recommended virtually the same procedure in handling professional problems as was recommended by the Board of Directors of the Texas Society of Professional Engineers in the March-April issue of the Texas Professional Engineer." It is significant to note that the latest issue of the said publication was issued jointly by the Texas Section of A.S.C.E. and the Texas Society of Professional Engineers.

Among the items of the publication, in addition to various reports, discussions and news items, are the following of general interest:

Engineers Should Clean Own House

A syndicated editorial by Peter Edson published in various newspapers over the nation on May 15, 1944, carried the following remarks about "Engineering service rackets" which again spotlights the need for the engineering profession to clean its own house:

"By far the most troublesome of the evasions are those of the

'engineering service' racket. Firms purporting to give engineering service really act as labor brokers, maintaining staffs of skilled workmen who are hired out at fancy rates of pay. An engineering service firm, for instance, will recruit draftsmen and hire them out as engineers. The draftsmen get higher than normal pay and the engineering firm collects a still higher bonus from its client.

"Army, navy, maritime commission, war production board and war manpower commission recently issued a joint statement of policy on breaking up the engineering service rackets, while still getting the good out of legitimate engineering firms performing a real function.

"Truman committee investigators are digging into reported violations now, and will hold public hearings within a month or so to bring out whatever dirt they uncover.

"Basic trouble is that there are too many smart operators in the country, too anxious and with too much temptation to beat wartime regulations."

Should it be necessary for the army, navy, maritime commission, war production board and war manpower commission to break up these "engineering service rackets?" The engineering profession will not be fully of age until it can clean up where needed.

T.S.P.E. Chapter Directory

Bexar

P. O. Box 201, San Antonio, Texas

F. L. Corey ..... President
M. J. Gerhardt ..... Vice-President
J. L. Willke ..... Vice-President
A. E. Searles ..... Secretary-Treasurer

Central Texas

21st and Webster Street, Waco, Texas

R. M. Sherman ..... President
N. E. Trostle ..... Vice-President
C. W. Borders ..... Vice-President
L. H. Wood ..... Secretary-Treasurer

North Texas

Room 819, Telephone Building, Dallas, Texas

Oscar H. Koch ..... President
George N. Pingree ..... Vice-President
Gibbs A. Dyer ..... Secretary-Treasurer

Nueces

P. O. Box 481, Corpus Christi, Texas

C. M. Blucher ..... President
J. E. Woods ..... Vice-President
R. L. Faltinson ..... Secretary-Treasurer

Sabine

P. O. Box 1422, Beaumont, Texas

R. B. Cruise ..... President
H. K. Rupp ..... Vice-President
T. J. Kelly ..... Vice-President
Leah Moncure ..... Secretary-Treasurer
H. C. Herring ..... Recording Secretary
Monthly meetings at Hotel Beaumont, Third Wednesday

San Jacinto

904 Union National Bank Bldg., Houston, Texas

W. W. McClendon ..... President
George L. Kelly ..... Vice-President
W. M. Andrews ..... Secretary-Treasurer

Travis

P. O. Box 570, Austin, Texas

P. V. Pennybacker ..... President
S. D. Breeding ..... Vice-President
G. S. Moore ..... Vice-President
P. A. Keller ..... Secretary-Treasurer
Monthly meetings at Driskill Hotel, Third Thursday

Note:—Chapters in other large centers of population are now being organized. If there are a number of Society members in your community, a local chapter may be organized by applying to the State Society for Charter.

Good Progress On Job Classification Project

Although the need for a uniform job classification for Engineers in Texas has long been apparent, no constructive action had been taken until recently either by the employer or the engineer himself to alleviate confusion and misunderstanding caused by innumerable titles now being used by State and Federal departments, municipalities and private corporations to designate the type of work in which the engineer is engaged.

The Texas Society of Professional Engineers is now undertaking a program of job classification through which it hopes to reduce this multitude of titles to a simple comprehensive list which will encompass all the work performed by professional engineers.

Upon presentation of the proposed program to the governor of the state, the Society was assured that it would be given the whole-hearted support of the chief executive's office. Subsequently, the president of the Society appointed a committee with instructions to make a preliminary survey and submit recommendations to the board of directors.

At the last meeting of the board, the committee presented a suggestion that a questionnaire, an outline of which was also submitted, be sent to all professional engineers in the state through their employers with the request that they fill out the form and return it to the Texas Society headquarters in Austin for classification. The questionnaire was as brief and concise as possible and yet comprehensive enough to permit quick classification.

The committee was directed to proceed with its work and to prepare a final draft of the form for distribution. The work of the committee is to be confined to State Departments for the present. The questionnaire will be accompanied by a form letter explaining the reasons for job classification and the purpose underlying the program itself.

In order to insure successful consummation of this program it will be imperative that the employer, as well as the engineer, be fully advised of the objectives of the Society and of the benefits that may be realized by each.

Committee Studies

A Special Committee on Salaries and Fees with A. P. Rollins as chairman held its first meeting of the year in Austin on May 3, 1944 .The Salary and Fee Schedules adopted by the membership in 1942 were studied in considerable detail. At that meeting a few minor but no major changes were made in the adopted schedules. The committee recommended that the Board of Directors inaugurate an active program for placing these Schedules in operation throughout the state. The Special Committee will continue to study these Schedules and, in all probability, additional revisions will be made at some later date.

Bexar Chapter

Bexar Chapter recently held a ladies' night meeting at the Cos House, a point of historical interest in San Antonio where General Cos, commanding the Mexican army, surrendered to the Texas army under command of Ben Milam.

Forty-five members and guests participated in the meeting which was strictly a social affair and included a barbecue dinner, music and dancing.

H.R.F. Helland has been named a member of the City-County Planning Committee sponsored by the San Antonio Chamber of Commerce. Datus E. Proper, as mayor of Terrell Hills, is an ex-officio member of the same committee.

With A. E. Searles, Bexar chapter secretary, called to Newfoundland on business, H.R.F. Helland has been named acting secretary in his absence.

F. T. Drought, who has been taking flying lessons, has now obtained in private flying license.

A. L. Strieber has transferred his membership from Bexar Chapter to the North Texas Chapter. He is now connected with E. L. Dalton company at Dallas.

DEFICIENCIES OF ENGINEERS

(*Continued from Page* 8)

7. More attention should be given to neatness, thoroughness, accuracy, and adequacy of field notes.
8. More attention and instruction should be given to the technique of field work.
9. The principles of photogrammetry should be studied.
10. Students should have instruction and practice in the writing of specifications for surveys.

*F. Class work can be made more practical by having practicing engineers give lectures. Also the assigned problems should be like actual problems encountered in practice. It is further recommended that engineering instructors should have had practical engineering experience.

*G. The student should be advised to avail himself of every opportunity to get experience in his chosen field as early as possible. The civil engineer should obtain his experience in surveying, engineering office, and construction work, and if possible should be thus employed during summers while attending college.

*H. It should be strongly impressed upon the student that college education is just a beginning and his success thereafter depends largely upon his work out of college.

I. Some have advocated the cooperative plan, although it is doubted that it will be feasible in other than industrial sections.

J. It has been suggesetd that civil engineers would fare better if more of them would have a more tolerant attitude toward refinement and culture.

K. Consideration should be given to the training films and training devices adopted at present by the armed forces for superseding to some extent, at least, the lecture method.

Summary

In summarizing the above recommendations, it seems to be generally conceded that there should be more thorough college training and practical application, whenever possible, in drafting, lettering, surveying, English, public speaking, business courses, and cultural subjects. In line with this trend of thought and consistent with the preceding recommendations, marked approval is manifested, in the questionnaire, of the stressing of engineering fundamentals. These fundamentals are listed as mathematics, chemistry, physics, mechanics, and drawing. Contrary opinions to these recommendations are few. Some insist that, if colleges can teach students to think, nothing more should be required of the institution.

Many of the men who have been most successful and who have served the longest are the most insistent that students should be made to realize real training begins when one leaves school; and, further, that students should be given some conception of what life is beyond college in the particular field pursued.

Since there is a constant demand for better engineers and since there are many rapid scientific developments, it is not unreasonable to expect that the length of engineering training will be increased to five years before too long.

**These comments occurred more frequently than the others.*

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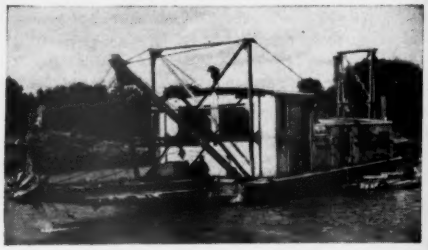

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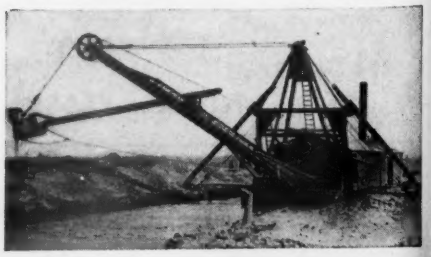

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WHAT'S NEW

And Coming In The Whirl Of Change

(News from industry — gathered by the publisher)

Details of U. S. War Construction Revealed Today by Gen. Somervell

Greatest Chapter in World Construction History Has Been Written in Eleven Billion Dollar Program, He Says

In the interval between June 1940 and D-Day the War Department constructed 11 billion dollars worth of facilities, comprising 19,000 projects, says Lt. General Brehon Somervell, Commanding General, Army Service Forces, in an article appearing today in the July issue of The Constructor, published by Associated General Contractors of America, which outlines for the first time the details of the nation's war construction program and the results attained.

"Now that so large a percentage of our troops are overseas and most of our facilities for manufacturing are finished, one can look at the construction program in the United States as a whole. We are still building overseas. We will continue to build overseas as long as the war lasts. Here at home, however, little is left to be finished," the General said.

"The conclusion is being written," he stated, "for the most brilliant chapter in world construction history—a chapter that will stand credit to the construction industry and to all others who had a part in the prosecution of this essential emergency program. It was the prelude to training, equipping and supplying the army. Volumes will be required to record the details of this program, the purposes to be met, the magnificent cooperation all down the line, the problems overcome, the methods developed, and the full influence of the program in the primary purpose of winning the war."

Earlier this year, before the details of this report were available, General Somervell had stated, "The job which the construction industry of America has done in overcoming shortages of labor and material and above all—time—is a remarkable tribute to American organizing skill.

About one-fifth of the total program was defense construction, that is, the contracts were placed before Pearl Harbor. Since that date some 8½ billion dollars worth has been completed. These projects included camps, hospitals, depots, assembly plants, manufacturing facilities, schools, airbases, ports, fortifications, highways, bridges and railroads. Troop housing alone was large enough to serve the combined populations of Boston, Pittsburgh, St. Louis, San Francisco, New Orleans, Baltimore and Washington.

"The installations contained 1½ billion square feet of floor space. They included 683 posts, 469 subposts, 3,469 outposts, 460 hotels, 56 hospitals. Not only was this the largest construction job ever attempted, it was completed with unbelievable speed. American contractors who played so large a part in this stupendous program deserve the gratitude of the nation for finishing their job on time.

First Unified Command

"Prior to our entrance into the war, the construction of seacoast batteries and facilities for the Army Air Forces was under the direction of the Corps of Engineers, while all remaining construction and maintenance work was the responsibility of the Construction Quartermaster. Defense construction became wartime construction after Pearl Harbor, and nine days later all construction was concentrated under the jurisdiction of the Corps of Engineers. The event was of great significance because it marked the first unified command in the war effort. Time became the vital factor in the program and speed the watchword."

The General said that the first problem of national defense was the need to combine the elements consisting of most of the essential raw materials, a vast reservoir of manpower, technological and scientific skills and a traditional ability to improvise brilliantly in time of emergency—into a vast army of effective specialists with the best weapons any army ever had.

When the defense phase of the program ended in December 1941, more than 600 different projects at a cost of about $2,488,000,000 had been undertaken. In the process, the construction industry established new records for mass production of buildings, but not before American genius for improvisation had been tested to the utmost.

"During the period from December 16, 1941 to March 15, 1942," the General added, "more than $2,000,000,000 of new work was authorized and about $570,000,000 of this amount represented construction in place. At the end of this period the total construction program authorized was estimated to cost more than $5,200,000,000 of which fifty-five per cent was in place.

"Throughout the remainder of that fiscal year, the construction program continued to accelerate until it reached its greatest momentum in July. From March 15 to the end of June 1942, almost one and one-half billion dollars worth of construction was put in place. During the last two weeks of June new heights of performance were reached by the Corps of Engineers—construction industry team—when the value of work accomplished rose to the astonishing figure of about $20,000,000 each day."

During this last year, because of the

changing character of the war, seacoast fortification construction was curtailed and passive protection construction was terminated. All necessary civilian housing at military installations has been provided. Outside of continental U. S., construction programs including strategic and access roads to military installations have been completed and maintenance and operational crews are now functioning. Special projects now constitute the major items of construction, such as lengthening and strengthening of runways for the accommodation of heavier aircraft, additional housing, technical facilities and training aids, test and research facilities for the development of new techniques, and additional storage, transportation, port and processing facilities for the increasing movement of men and materials overseas.

"Before Pearl Harbor," the General continued, "Air Forces construction amounted to about $471,000,000. Since then it has risen to about two and a half billion dollars. Storage and shipping facilities have expanded at a cost of almost a billion dollars. The value of troop facility construction has amounted to about $1,800,000,000. Total expenditures for these installations since June 1940 total about $2,800,000,000. Almost $2,200,000,000 has been spent in construction munitions manufacturing plants.

"Without exception, the capacities of all munitions assembly lines far exceeded original estimates. Due credit for completing this program in the limited period available belongs to the architect-engineers, construction contractors and organized labor.

"It may not be too far-fetched to say," concluded General Somervell, "that in the building program achieved here in America we learned a great deal about how to beat the Axis."

* * *

New Naval Facility Construction To Total $500,000,000, Vice Admiral Moreell Reports

Says About One-Third of this Construction Volume Will be for Air Training Facilities and Bases

Approximately $500,000,000 has been provided for new construction within the continental United States by the Bureau of Yards and Docks during the fiscal year 1945, Vice Admiral Ben Moreell reports in the annual directory issue of THE CONSTRUCTOR, official publication of the Associated General Contractors of America, the national organization of leading general construction firms.

Most of this amount, he says, will be spent on competitive bid lump sum contracts for a wide variety of shore facilities necessary to the operation of the Navy's tremendously augmented fleet.

"Approximately one-third of next year's budget for continental construction," he explains, "will be devoted to increasing air training facilities and new air bases. These facilities, earmarked at nearly $170,000,000, will be designed to handle an additional 3,750 planes.

"The next most extensive undertaking, reflecting the increased demands for naval ordnance brought on by the expansion of the fleet and its far-flung offensive operations, will be the construction of ordnance facilities at a cost of approximately $95,000,000. For fleet facilities themselves, an additional $33,000,000 of construction is scheduled for operational group training facilities, for amphibious training, for fleet and cargo piers, dredging, convoy and escort bases, emergency mooring equipment and navigation aids and other facilities.

"Another sizable undertaking will be storage facilities. Approximately $70,000,000 is set out in next year's budget for storage tanks, dumps and warehouses needed in channeling the flow of fuel and supplies to the fleet and its air arm."

Construction of new hospitals and extension of existing institutions to provide for 14,370 additional beds for wounded veterans, is provided for by a $33,000,000 item in the 1945 budget, Admiral Moreell states. At the same time this work is undertaken, an additional $22,000,000 will be spent for construction of Navy personnel housing and training facilities for men to go out to the combat zones, together with $20,000,000 for housing and training of Marine Corps personnel.

"Not only will the bureau undertake this new construction," he continues, "but it is faced with the tremendous job of maintaining well over $5,000,000,000 worth of shore establishments built in this country for the Navy since the beginning of the emergency in July, 1940. This represents a 12-fold increase over the size of our shore establishment at the start of the emergency program. It explains graphically what we mean when we say that the Navy has expanded its shore stations to keep pace with the needs of the expanding fleet."

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